Nuclear Medicine Advisory Group Meeting: 27th November 2014

Nuclear Medicine: Workforce Development Guidance

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The Aim

*'In seeking to commission a new document, the SCoR expects that **current and emerging trends in nuclear medicine practice will be taken fully into account**, and that the document will provide appropriate guidance for the development of the current and future nuclear medicine workforce to support effective provision of patient and referrer focussed nuclear medicine services'*

'An in depth survey of a representative number of nuclear medicine practitioners and workforce currently practising in the UK'

The survey is expected to identify current and likely future working practices, technological innovations, and current and future approaches to education/workforce development

Guidance from the SCoR at the start of this project

So Where Are We…..

'An in depth survey of a representative number of nuclear medicine practitioners and workforce currently practising in the UK'

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Why the Question Mark?

- So much data available
- How easy is it to develop this into a truly useable document?

Try to cover all of the points – **becomes less readable as it is too long**

Leave some info out - **dilutes the impact?**

Aim of a potential document?

Core competencies and educational standards for each level of NM practitioner

- Difficult to achieve

But in it's favour…

- Feedback suggests this is what the workforce (not necessarily the managers) actually want
- Very prescriptive, but allows for greater standardisation of the NM process
- Surely a good thing when we consider ensuring 'patient centred care'

Difficult.... but a Possibility?

SOCIETY OF NUCLEAR MEDICINE AND MOLECULAR IMAGING
TECHNOLOGIST SECTION

Nuclear Medicine Technologist Scope of Practice and Performance Standards

Prepared by: Society of Nuclear Medicine and Molecular Imaging Technologist Section
Approved: June 7, 2013

Positron Emission Tomography (PET) Technologist Scope of Practice and Performance Standards

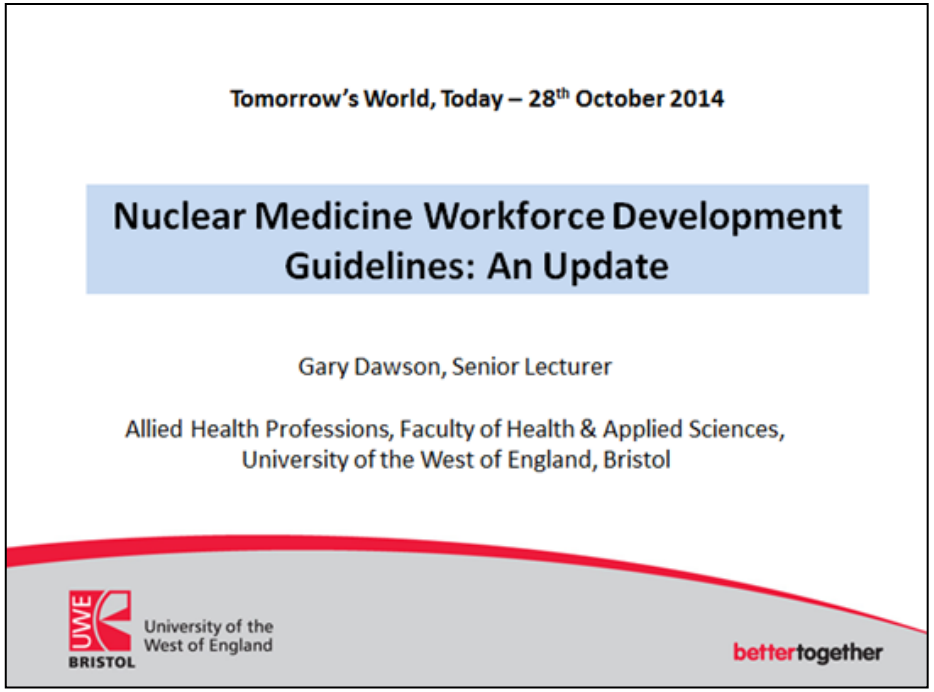
Prepared by: Society of Nuclear Medicine and Molecular Imaging Technologist Section
Approved: January 26, 2013

J of Nuclear Medicine Technology, first published online April 30, 2013 as doi:10.2967/jnmt.113.123869

PET/MR Imaging Consensus Paper: A Joint Paper by the Society of Nuclear Medicine and Molecular Imaging Technologist Section and the Section for Magnetic Resonance Technologists

So Back to the Findings…..

- Too many ideas to cover in this presentation
- Have a look at the previous presentation
- Hopefully a comprehensive overview



Let's consider a few of the main points…

Thoughts of the RCT…

the RCT the Register of Clinical Technologists

Regulating the Clinical Technologist profession

Home | About us | Application to Join | Concerns | External Links | FAQ's | Public Information | Registrant Information | News | View Register

Scope of Practice

Clinical Technologist: Scope of Practice

Clinical Technologists are Healthcare Scientists specialising in the practical application of physics, engineering and technology to clinical practice. They work in NHS hospitals, private health care, academic institutions and the medical device industry.

The practice of Clinical Technologists is divided into Clinical Physics and Clinical Engineering. They work in the following disciplines:

Clinical Physics Technologist

Nuclear Medicine:- Practiced by Nuclear Medicine Technologists
Radiotherapy Physics:- Practiced by Radiotherapy Physics Technologists
Radiation Physics :- Practiced by Radiation Physics Technologists

Clinical Engineering Technologist

Medical Engineering:- Practiced by Medical Engineering Technologists
Radiation Engineering:- Practiced by Radiation Engineering Technologists
Rehabilitation Engineering:- Practiced by Rehabilitation Engineering Technologists
Renal Technology:- Practiced by Renal Technologists

For each discipline there is an introduction, a broad overview, and, a description of the specialised tasks practiced. The scope of practice statements describes the attributes that would be expected from a newly qualified Clinical Technologist at the point of registration. The Scope of Practice is currently under review.

Updated: September 8, 2014 — 10:06 am

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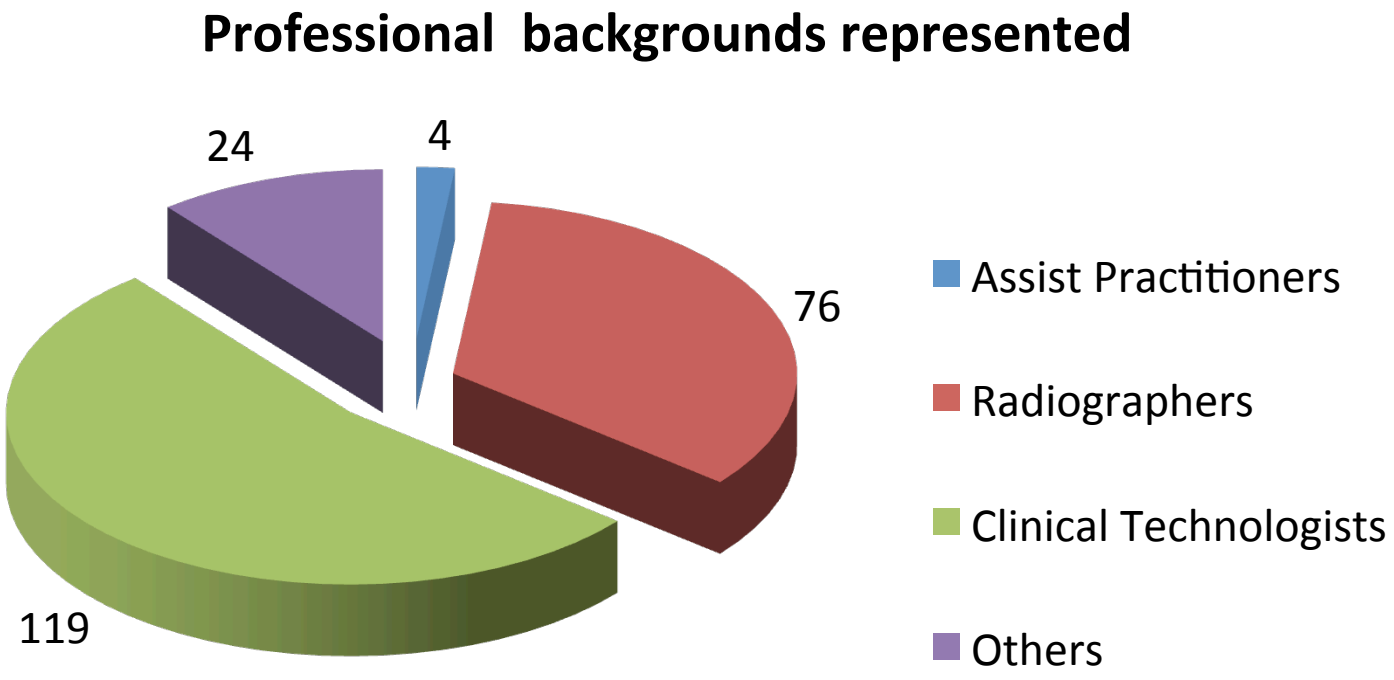
Updated: September 8, 2014 — 10:06 am

One document to cover all??.....

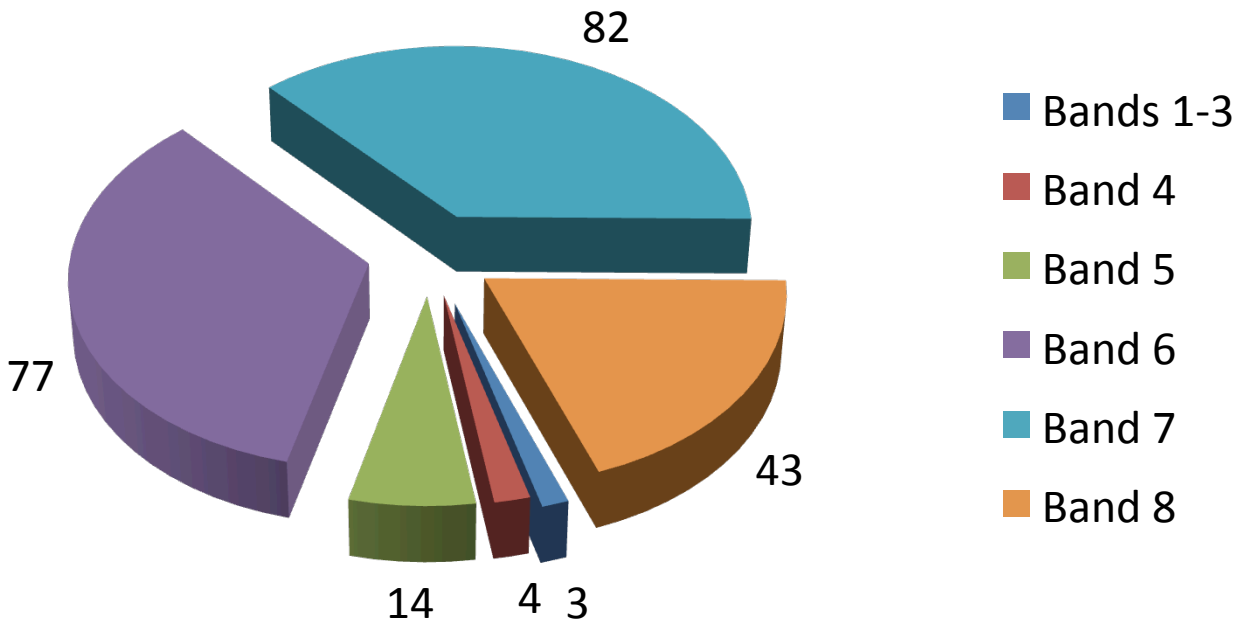
So Has the Plan Worked?

Well……**223 responses** (I was hoping for about 50….)



Massive thanks to Mark Mcdade, the NMAG members and my UWE colleagues

Representation from a range of NHS Pay bands?



Responses from lots of band 7/8's - Is this a true representation of the workforce or just who the questionnaire ended up with?

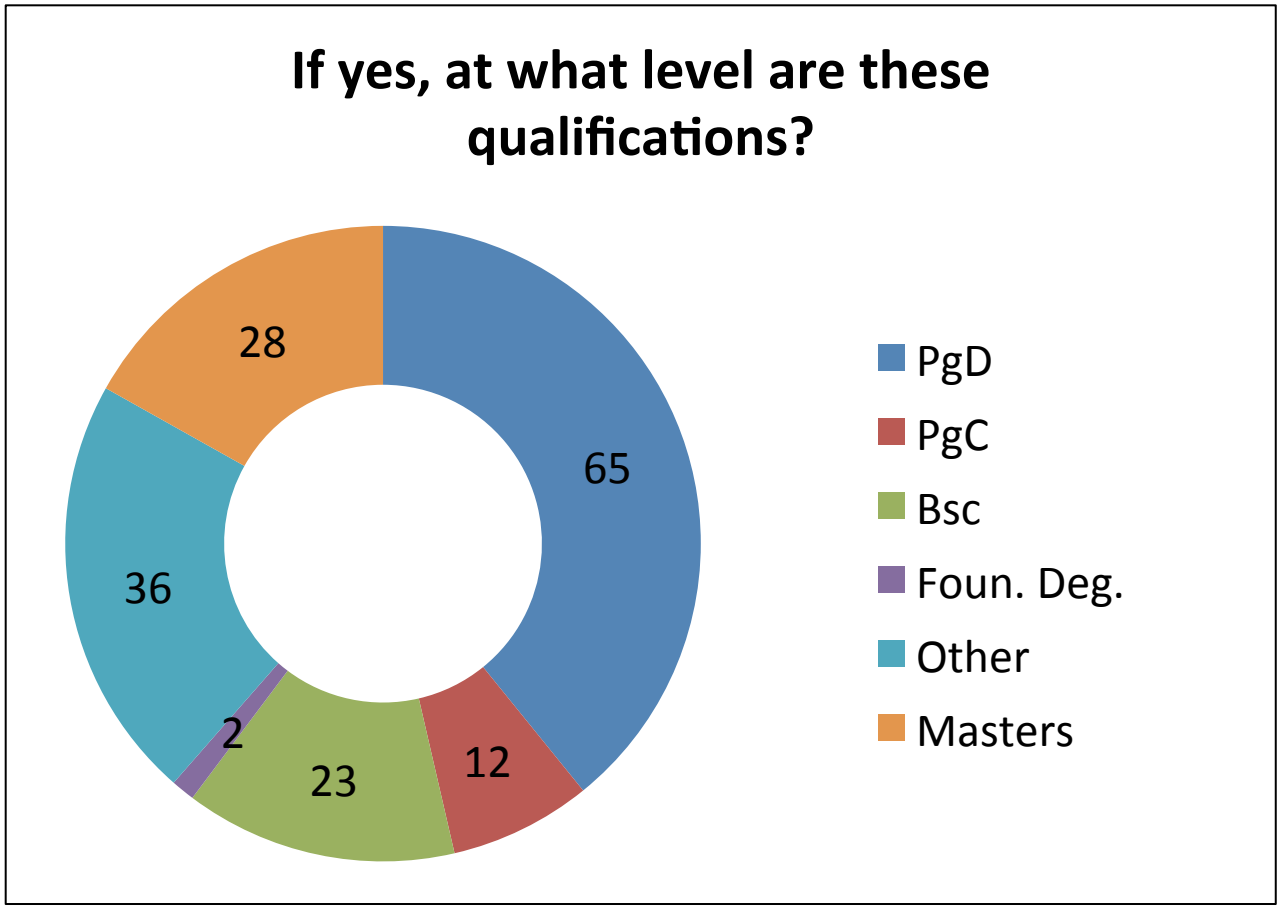
Is this point important in relation to a future document?

Any potential document may need to be specific as to what constitutes advanced practice……

Education

Do you possess any formal NM Qualifications?

Yes = 159 **No = 64**



Other = mainly HNC / HND

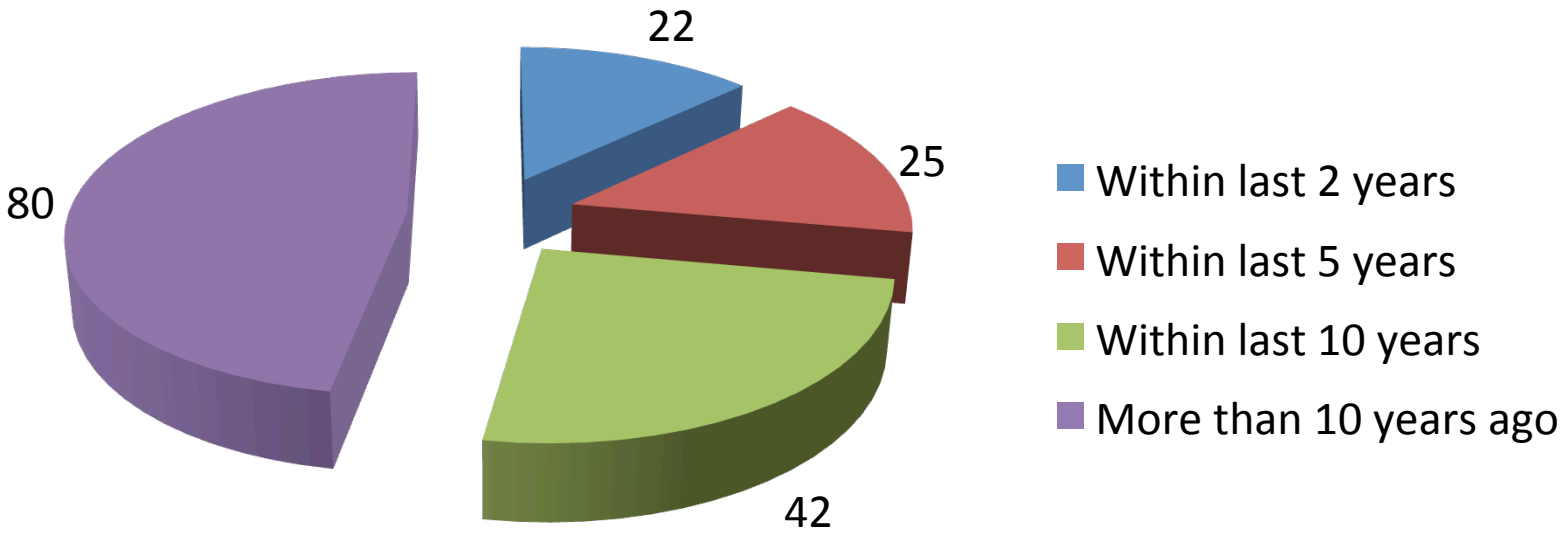
Initial thoughts…..

Are we happy with this?

Should we be aspiring to more Masters / PHD's?

Slightly More Worrying?

How long ago did you achieve these qualifications?

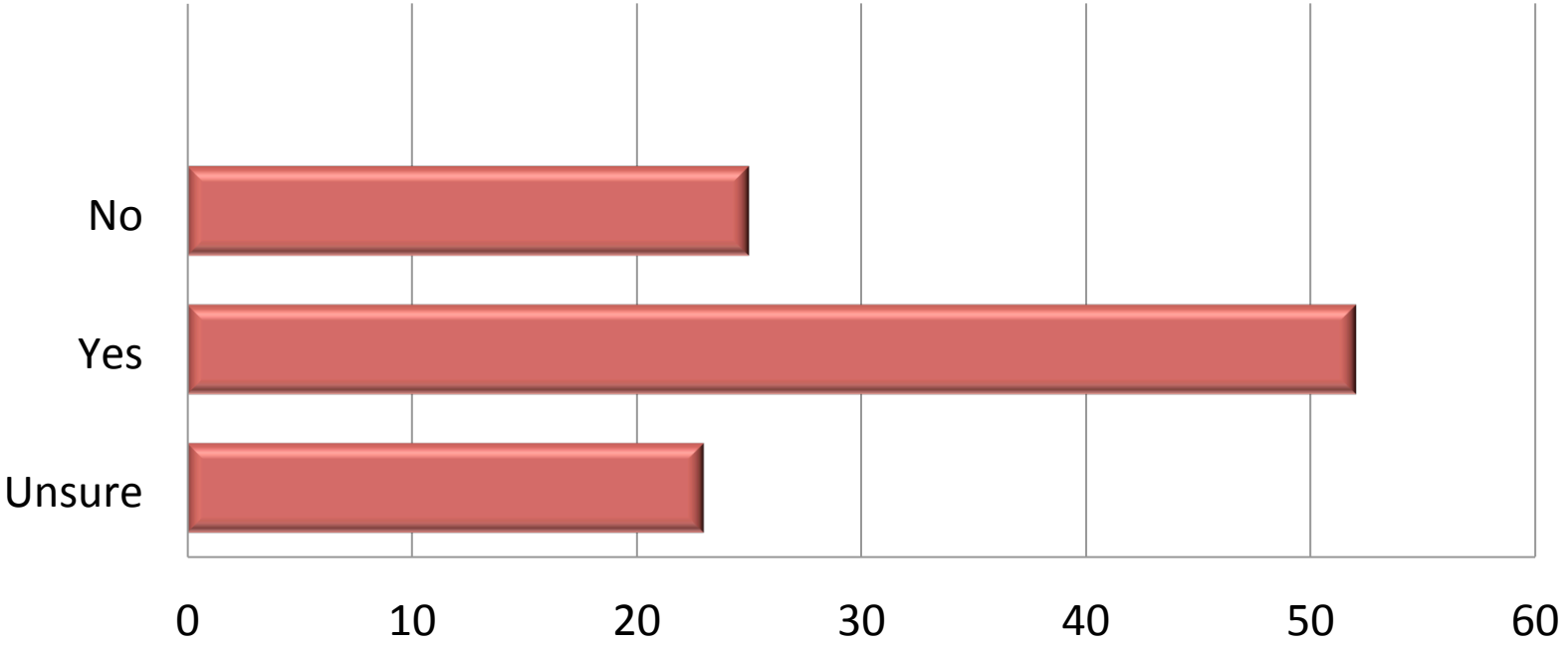


How much has technology / technique changed over the last few years?

Does the workforce need an 'educational refresh'?

BUT, I HEAR YOU SAY, DO THE WORKFORCE WANT EDUCATING……

Would undertaking qualifications / further qualifications be something that appeals to you?



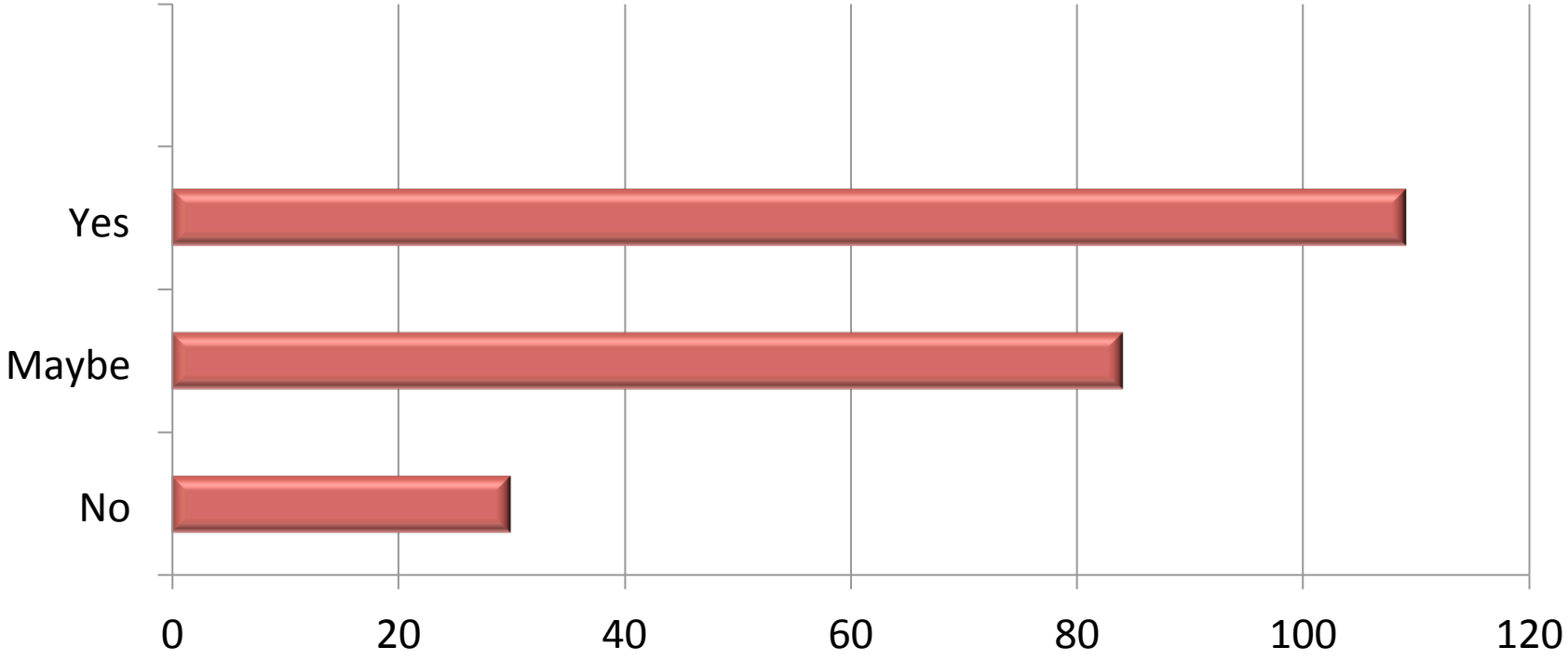
In which areas?

- **Hybrid / PET**
- **Reporting**
- **Cardiac stressing**
- **Management / Leadership**

No because…..

- **I'm too old**
- **No incentive – top of band**
- **No support from department**
- **I've got lots of experience……**

Do you think the completion of further education / short courses would improve your current NM practice?



People seem to want help with Hybrid Imaging / PET and importantly Diagnostic CT

This is a recurring theme – see the next slide....

The Importance of CT Competencies…

CT Competencies

Developing guidance for the appropriate use of computed tomography within a hybrid imaging environment.

The introduction of computed tomography (CT) within the nuclear medicine environment over the last decade has led to a dramatic increase in the number of hybrid imaging installations within the United Kingdom[1]. Modern multislice single photon emission computed tomography (SPECT) and positron emission tomography (PET)/CT units now have the diagnostic capability to provide a high level of anatomical information[2] and have redefined the physical environment required for this imaging modality[3]. This, alongside current financial pressures impacting on the NHS, has begun to challenge traditional working practices and an increased emphasis is now being placed on the healthcare practitioner to provide high quality care, demonstrate greater clinical effectiveness, improve safe working practices and to continuously adapt their skills to meet with the changing needs of the patient[4].

Initial research conducted by the authors, in collaboration with existing clinical nuclear medicine practitioners[5] has indicated variation in the optimal use of CT within a hybrid imaging environment. It is a concern that this apparent position within the hybrid imaging community does not appear to be conducive with current government initiatives related to optimal service provision[6]. These inconsistencies would, therefore, appear to highlight the need for the development of a competency-based framework, that would provide the practitioner with the opportunity to develop their own working practices and help promote the harmonised use of CT within the hybrid imaging environment.

Background

The introduction of new hybrid imaging systems and the emergence of new clinical procedures/techniques[7] has created opportunities for the nuclear medicine practitioner to develop and harness new skills and knowledge[8]. Introducing new technology and techniques within an established clinical environment can impact upon workforce dynamics and efficiency rates[9], and therefore the need to develop appropriate guidance for those healthcare practitioners employed within the hybrid imaging environment would seem of paramount importance. If this position is not achieved, the hybrid imaging modality risks not complying with current government initiatives associated with patient centred care, service efficiency and the upskilling of the workforce[10].

The impact of CT within a hybrid imaging environment has changed all elements of the nuclear medicine procedure and additional awareness needs to be demonstrated by the nuclear medicine practitioner. Figure 1 highlights the various steps that are encountered within a typical hybrid imaging examination[11], and whilst the CT element does not appear at the beginning of the examination, it must be considered throughout. Without this appropriate planning the potential success of the whole procedure could be compromised and an additional radiation burden could be placed upon the patient.

Consideration as to the importance of organisational workflow and the adaptation of new skills following the introduction of new technology, has been studied extensively by Barley[12] and Schoenhofer and Boykin[13]. Both studies link to

Figure 1: Typical steps involved in the completion of a SPECT/CT examination.

UWE BRISTOL

University of the West of England, Bristol

Faculty of Health and Life Sciences

Allied Health Professions

CT competencies for Nuclear Medicine Practitioners[1] working in a hybrid imaging environment

Version 1.5

Document owner: Marc Griffiths / University of the West of England, Bristol

Document date: 26/04/2013

This REALLY needs to happen!

A *'position statement'* related to the appropriate use of CT within the hybrid environment

Education availability

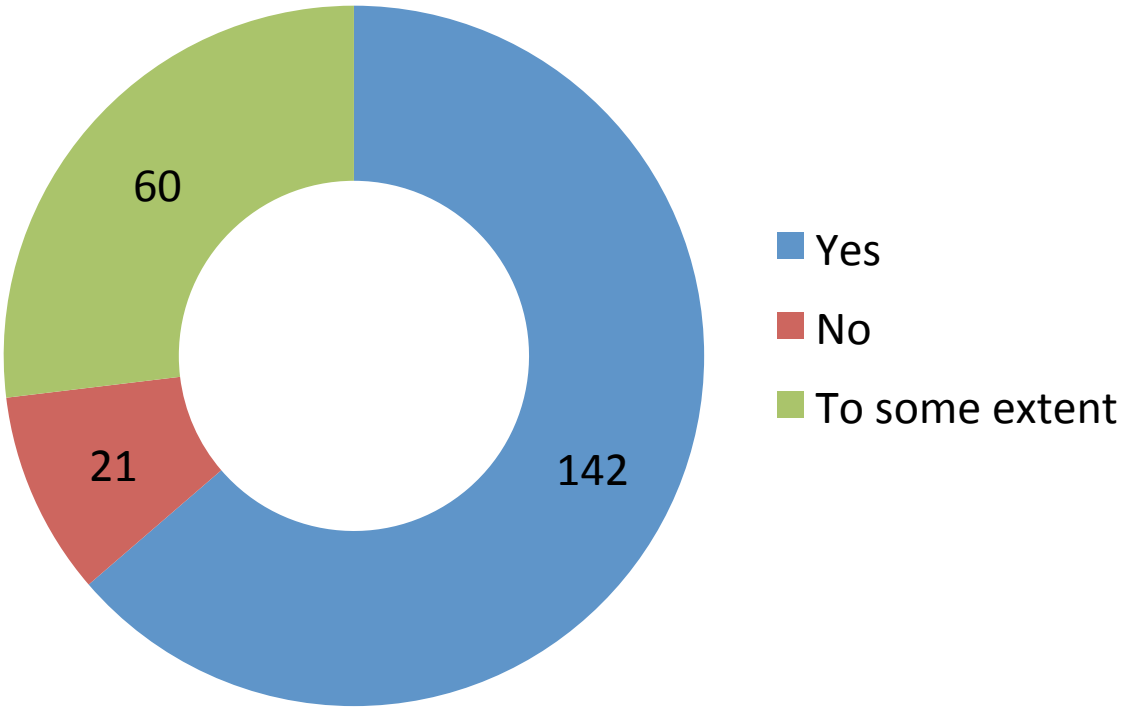
How might this align with the future ambitions of the SCoR

- Many responses highlighted that people either didn't realise what formal education programmes were available - or that they were too expensive.

- UWE now provides a 'distance learning' education package.
- Larger numbers in the future may lead to a cheaper course.
- This format would suggest increased feasibility around the standardisation of learning packages- particularly for hybrid?.

Imaging / Diagnostic Procedures

Are you supported / encouraged by your professional lead to employ personal 'decision making skills' in relation to individual patient care / the acquisition of additional images etc.?



Positive…

BUT

What are people doing?

What skills have they got?

What training have they had?

Imaging / Diagnostic Procedures

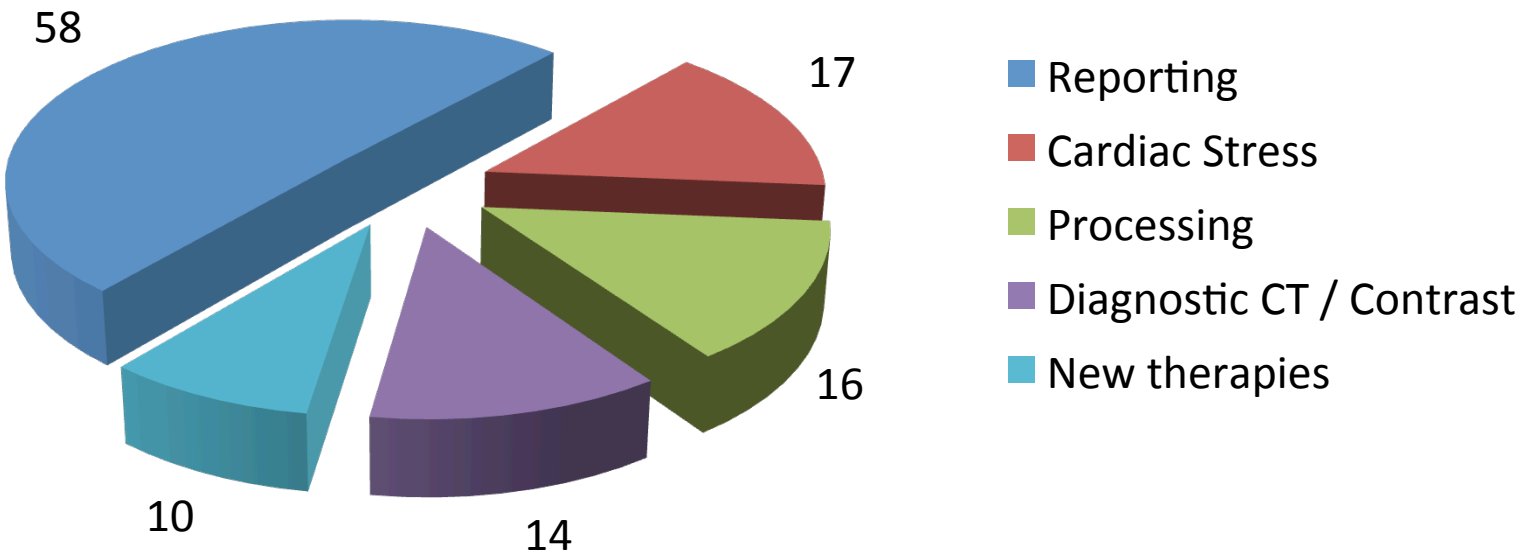
Ok so what sort of things are we taking about?

Task	Number
Acquisition of additional or delayed images	68
Asking for / undertaking a SPECT/CT	24
Requesting supplementary x-rays	15
Assessing patient suitability for a scan / cancelling scan	12
Making decisions regarding cardiac stress testing	9
Administering diuretic	9
Adapting protocols	8
Sending patients away without showing images to a doctor	8

Imaging / Diagnostic Procedures

Within the current structure of your department do you think there are more opportunities for the Nuclear Medicine Practitioner to develop/utilise their skills?

Yes = 143 **No = 80**



Why reporting?….. This may suggest issues associated with diagnosis turn around times?

Reporting issues

- **Consultants are getting older**
  - 40% of consultants are aged over 50, with imminent retirements posing a potential threat to NM services[1]
  - 22% of NM consultants will reach the age of 65 over the next 10 years[2]
  - At present, current medic training numbers are just sufficient to maintain the modality[2]

1 - North West Cancer Workforce Strategy 2009-2016. Available from: http://www.mccn.nhs.uk/userfiles/documents/NW%20Cancer%20Workforce%20Strategy%202009%20-%202016%20A4%20FINAL.pdf

2 - Royal College of Physicians (2013) Nuclear Medicine. Available from: https://www.rcplondon.ac.uk/sites/default/files/nuclear_medicine.pdf

So Reporting……

- **Increased Pressures Placed on the Medical Workforce**
- ***The workload is changing***
  - Increasing workload complexity and rising commitment to MDT involvement has been noted[2]
  - The advent of 7 day working…….
- ***The solution?***
  - A significant increase in the number of allied professionals will be needed to support the modality[2]
  - Investigate potential role extension for other healthcare professionals working within NM[1]

1 - North West Cancer Workforce Strategy 2009-2016. Available from: http://www.mccn.nhs.uk/userfiles/documents/NW%20Cancer%20Workforce%20Strategy%202009%20-%202016%20A4%20FINAL.pdf

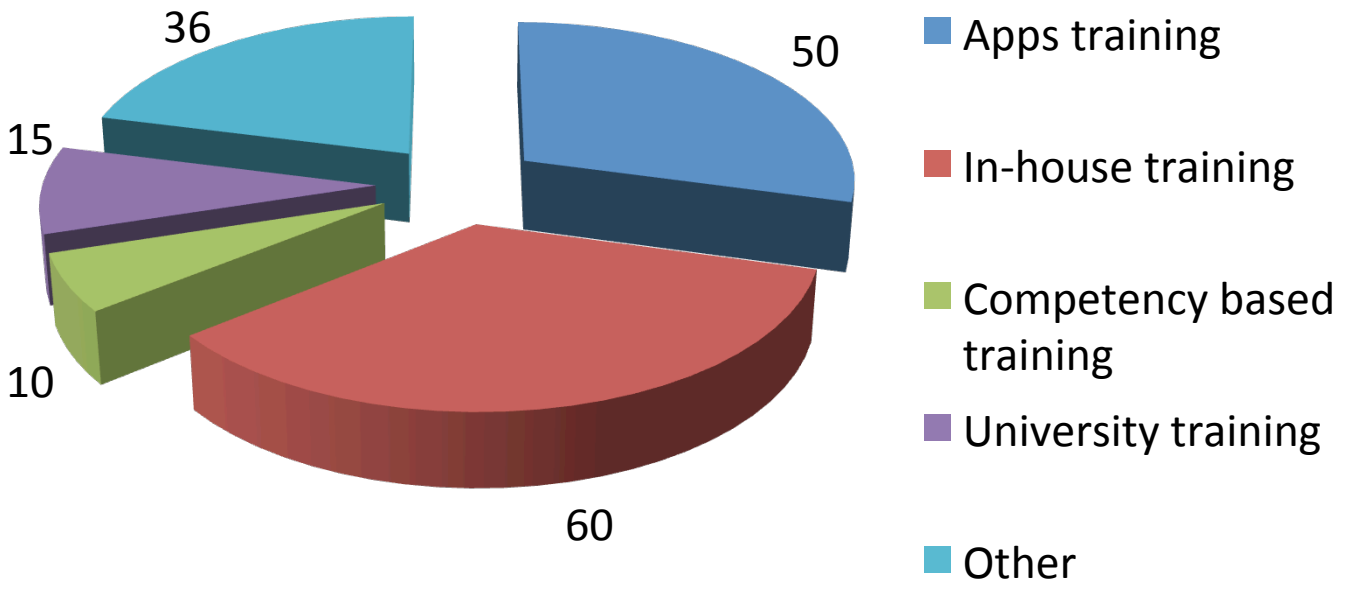
2 - Royal College of Physicians (2013) Nuclear Medicine. Available from: https://www.rcplondon.ac.uk/sites/default/files/nuclear_medicine.pdf

Advancing Techniques

Does your department currently have hybrid imaging capabilities e.g. SPECT/CT, PET/CT, PET/MRI?

Yes = 173 **No = 50**

If yes, what training have you had?

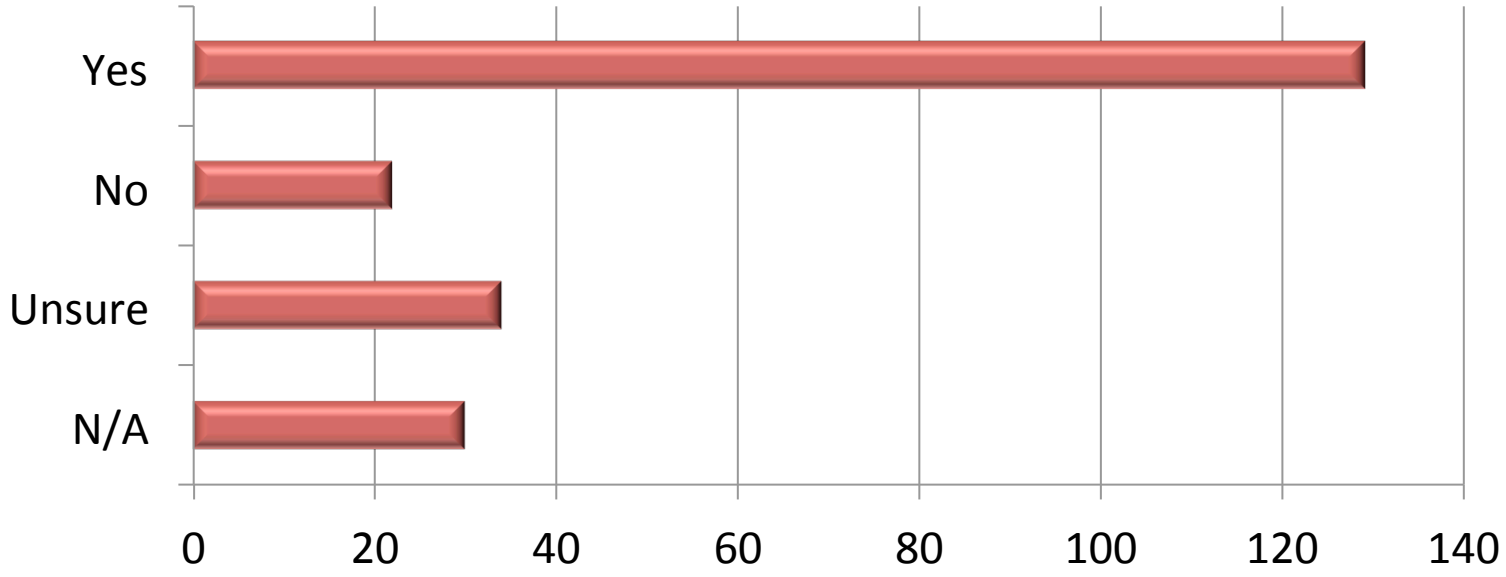


Other?

Thought most things had been covered..

Advancing Techniques

Do you feel that additional training in relation to hybrid imaging might prove beneficial to your current clinical practice?



This seems to reinforce some of the earlier points

Advancing Techniques

So what training / education are the workforce after?

Activity	Number
Greater general understanding of the modality / modalities	33
Cross sectional anatomy	13
CT optimisation	11
Manipulation of imaging parameters	9
Diagnostic CT and contrast	6
CT interpretation skills	6
Image processing / reconstruction	5

Other interesting answers

- **Fusion training, rather than just CT training**
- **Formal CT training**
- **Specialists in the 'field'**

Recommendations
Bold = urgently needed?

- Consideration as to how well the SoR Education and Careers Framework aligns to the current role of the NMP
- **Position statement related to the optimal use of CT within the hybrid imaging environment**
- Further education / guidance related to the developing role of the NMP i.e. counselling skills, dealing with dementia etc.
- **Further development of a NM reporting framework for the *'non-medic'* to complement the 2005 BNMS document**

Recommendations
Bold = urgently needed

- Consideration as to the ongoing importance of radiopharmacy training / education

- **More education / competency-based assessment related to hybrid imaging practice (but the workforce needs to be clear what they want / need)**

These are just some ideas….

THANKS
FOR
LISTENING