Princess Alexandra Hospital
Health Service District

Medical Radiation Practice Board of Australia
c/- Australian Health Practitioner Regulation Agency
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2012 Incoming Professions

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Date: 3rd January 2012

Dear Board Members,

Please find attached two documents that form the Submission for the Proposed Registration Standard on Supervised Practice for Medical Radiation Practitioners

This Submission has been prepared on behalf of the Medical Imaging Department, Princess Alexandra Hospital, a tertiary teaching hospital in Brisbane, by the unit's Clinical Educators, Mr. Tom Steffens and Mr. Michael Neep.

I trust that it will be of some assistance in your deliberations on this important area of graduate transition to independent clinical practice and professional responsibility of graduate medical radiation practitioners. Please confirm receipt of submission.

Yours Sincerely

Wayne Nuss
Director
Medical Imaging

SUBMISSION to Medical Radiation Practitioners Registration Board Australia

DRAFT REGISTRATION STANDARD – SUPERVISED PRACTICE

REPONSE by Medical Imaging Department Princess Alexandra Hospital

In providing feedback to the Medical Radiation Practice Board of Australia on its current consultation paper the respondents will address the specific items as outlined.

(a) The number of clinical practice hours required to be completed by a recent graduate for the purpose of general registration

The Princess Alexandra Hospital (PAH) Medical Imaging Department has over 20 years experience of mentoring, training and assessing radiography graduates of

(i) A three year course of study

The training and evaluation of these graduates were initially conducted under the framework of the Australian Institute of Radiography's (AIR) Professional Development Year (PDY) program and subsequently for the past 10 years conducted under both the AIR program and the legislated Supervise Practice Program of the Medical Radiation Technologists Board of Qld.

Both programs have required a 48 week supervised practice period and it has been the experience of the PAH that the wide range of clinical skills, professional and ethical responsibilities that are required of the contemporary radiographer require 48 weeks to ensure competency of practitioner and safety to the public.

(**ii) A four year course of study**

PAH Medical Imaging has no experience of four year course graduates in their first year of development subsequent to graduation. However, in preparation for two new 4 year courses commencing in Qld in 2011 and 2013, the clinical educators of PAH Medical Imaging conducted a national survey of employer representatives on the work readiness of both 3 and 4 year course graduates. The survey questions addressed seven clinical skill sets and six professional responsibilities. A research paper was subsequently written and has been submitted for publication in a national journal. Publication is expected early in 2012. The conclusions drawn from the survey indicate four year graduates also require a period of supervised practice subsequent to graduation. A copy of the report's findings is included in this submission.

(b) **How fitness to practice (clinical competence, professional conduct and compliance with regulatory standards) should be assessed during supervised practice.**

- Regular supervised monitoring of probationary registrant during progress towards attainment of prescribed competencies
- Portfolio of evidence/diary of events for compliance with standards
- 3, 6, 9 and 12 month Supervisor reports that evaluate each element of clinical conduct and professional and ethical responsibilities

(c) How to achieve consistency in implementation of supervised practice and consistency in clinical evaluation.

- Standardised forms
- Accreditation training for supervisors at each site
- Formalised feedback mechanisms
- National Oversight

(d) The level or extent of supervision for provisional registrants – i.e. direct supervision and indirect supervision.

- Initially direct leading to indirect based upon regular assessment
- 6 - 12 months dependent upon level of clinical competency
- Definitions of direct and indirect supervision must be explicit

(Readers should be aware that diagnostic radiographers are one of the few health professionals who are required to provide services in areas of sole practice either in rural areas, suburban practices or in the provision of out of hours on call services.)

(e) What ratio, if any, should exist between supervising practitioners and those practitioners being supervised?

- 2:1 minimum,(higher preferable) allows for sudden sick leave, unexpected resignations, breaks,

(f) At what point, and under what conditions, is it appropriate for a practitioner being supervised to undertake On Call duties.

- 6 -12 months, providing supervisor is prepared to sign off on probationary registrant's competence and depending upon supervisor(s) out of hours availability

(g) The level of training or experience required of a Supervising practitioner

- Understanding of program, competencies, assessment methods etc (e.g via courses run by Board or professional associations)
- Qualification or proven experience in assessing others.
  (? Portfolio of previous supervision activities)
- Supervisor Courses have been run in Qld by MRTBQ and in other states by AIR

(h) The impact of supervised practice requirements on the transition of graduates into the workforce.

- Written Feedback Surveys from graduates conducted over a number of years indicates that supervised practice requirements that address clinical competencies, patient interactions and radiation safety, improve the transition from university to the realities of the workplace. Published articles (References 1,2,3,4,5,6.) also provide evidence of the need for formal supervisory arrangements in the first year of practice

(i) The advantages and disadvantages of implementing and maintaining a supervised practice program

- Ensures graduates meet public protection obligations of the Act
- Formalises and provides direction for employers
- Provides employers with the preferred option of hiring temporary employees for a 12 month period and formally evaluating their achievement of professional milestones before offering a permanent position. Contemporary human resource policies make it extremely difficult to "release" graduates who have been offered a permanent position shortly after graduation if they fail to meet competency and patient welfare standards.
- Accreditation of centres provides employers with a competitive recruitment advantage
- Enhances standards of professional practice
- Improves radiation safety standards for patients
- Reduces potential for litigation if new graduates have a formalised supervisory program
- Provides opportunities for remedial action with progressive assessment

- Enhances engagement of experienced workforce in the education and training of new graduates

- Introduces graduates to a structured form of Continuing Professional Development at beginning of career

- Provides a "safety net" for new graduates that address any clinical skills omissions that may have occurred during undergraduate course. (Published research would indicate that undergraduate clinical experience in some centres could, at best, be described as "variable".)

- Provides the opportunity for graduates to learn suitable patient engagement skills and multidisciplinary communication techniques

(j) Alternative structures of supervised practice that address

(i) Reducing costs on healthcare and workforce

- The Vic Health model of funding graduates at lower rates provides cost saving options. Scholarships could also be explored. A partnership model with the professional associations could also reduce costs.

(ii) Increase workforce access and flexibility

- HWA or other forms of Scholarships could be directed to Accredited centres where workforce demand warrants such assistance

(iii) Provide consistent, measurable clinical outcomes

- Adapt the existing MRTBQ Supervised Practice model which provides such outcomes

REFERENCES

1. Kilgour, A.J., 2011, *Assessment of competency in radiography students – a new approach*, The Radiographer, August 2011, Volume 58 (3)
2. Connell, M., 2011, *Practice Education Matters: supporting the clinical educator*, Synergy Imaging and Therapy Practice, October 2011, Pages 24-29.
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6. Tweed, M. J. et al 2010 *How the Trainee Intern (TI) year can ease the transition from undergraduate education to postgraduate practice.* Journal of New Zealand Medical Association, July 2010 Vol 123 No 1318

The Work Readiness of Australian Medical Imaging Graduates– An Employers' Perspective

Tom Steffens, Michael Neep, Wayne Nuss, Princess Alexandra Hospital, Brisbane

INTRODUCTION

In 2011 the first 4 year undergraduate medical imaging course was introduced into Queensland by Central Queensland University (CQU). Another 4 year course conducted by James Cook University (JCU) is planned to begin in 2013. These are innovations to the Queensland scene which has relied upon the Queensland University of Technology (QUT) for the majority of its' new workforce with any shortfall being supplemented mostly by University of Newcastle (UoN) and Charles Sturt University (CSU). All three universities produced the 3 year undergraduate plus professional development year (PDY) graduate model. The PDY is also referred to as the National Professional Development Program (NPDP) or the Supervised Practise Program (SPP).
With virtually no experience in managing and assessing the clinical competency of 4 year undergraduate students, clinical educators in Queensland sought some guidance on employer expectations from clinical colleagues. It was hoped that this guidance would help determine what additional teaching and training as undergraduates would be necessary to ensure graduates of 4 year courses could meet the necessary standard to enable them to practice independently as they would not have the PDY "safety net".

The Health Practitioner Regulation National Law Bill Part 1 Section 3 (2) (a)[1] provides for : "the protection of the public by ensuring that only health practitioners who are suitably trained and qualified to practise in a competent and ethical manner are registered." The Act allows for provisional registration for the purpose of enabling an individual to complete a period of supervised practice that the individual requires to be eligible for general registration.
Provisional registration enables graduates to fulfil the requirements of unconditional registration that would enable them to work in a sole practise situation (e.g. in a single radiographer rural site or on call in a metropolitan centre).

Concerns over the work readiness of graduates were subsequently reinforced in an article by Andrew Kilgour[2] "Assessment of competency in radiography students – a new approach" wherein Kilgour addresses the significant variations between clinical centres in how students are assessed. A subsequent article, "Practice Education Matters: supporting the clinical educator", in the October edition of the United Kingdom journal Synergy Imaging and Therapy Practice, wherein the author Michelle Connell[3] states "research has found that the quality and support of students in clinical practice is variable and a cause for concern, since it is educators who assess the student fit for practice/purpose at the point of registration"

With the future in mind, the authors began discussing the professional development of 4 year graduates from managerial, orientation and training needs perspectives. One resource which was considered a reliable guide, was the Validated Statement of Accreditation (VSoA) which is bestowed upon graduates of 4 year courses accredited by the Professional Accreditation and Education Board (PAEB) of the Australian Institute of Radiography (AIR). As the VSoA is currently awarded to graduates of 3 year degrees who successfully complete a 48 week period of supervised practice, there appear to be assumptions that 4 year graduates would be professionally independent from their first day of employment. A search of the literature yielded no published data from workplaces validating this assumption.

From the discussions, a number of questions emerged:

- Would graduates of a 4 year course possess all the clinical skills as well as the professional and ethical attributes required to operate independently upon commencement?
- If 4 year graduates required a period of supervised practice, what specific skills and responsibilities would need to be developed whilst in the workplace?
- Would graduates of a 4 year course require a period of time being supervised before they could be considered totally independent allowing unconditional registration
  and, if so,
- What period of time would be appropriate?

As indicated in a recent article in the Radiographer by Sharon Brackenridge[4] entitled "The Professional Development Year",

> "The experience of graduate practitioners in their first postgraduate year of professional practice varies considerably throughout Australia….".

Discussions were held amongst the authors regarding the question raised in the article;

> "What is your opinion on the required year of postgraduate supervised practice, its purpose, function and value"[4].

From these discussions, a number of questions emerged:

- Do 3 year graduates require the entire 48 weeks of supervised practice before they can operate independently in the workplace?
- Could the traditional 48 week period be shortened to 6 months and still produce independent practitioners?

In an attempt to answer these questions, the authors decided to survey directors and clinical educators from around the nation, as other parts of the country had greater experience of not only graduates of 4 year courses but other 3 year courses. Responses to the survey would assist in answering these questions and provide a perspective of the workforce nationally.

METHOD

In March 2011 a survey was distributed to employer representatives to ascertain their views on the work readiness of graduates from either 3 year undergraduate university courses with the requirement for a professional development year or 4 year undergraduate university courses wherein the current accrediting authority, the PAEB of the AIR, requires no PDY.

A one page survey was developed for ease of completion. The form was tested locally for comprehension before the final iteration was determined. The survey on competencies was divided into two broad headings; clinical skills and professional responsibilities. These were adapted from the AIR Competency Based Standards[5]. The survey followed a similar format to that reported in an earlier article by Liang et al[6] which assessed the perceived preparedness for clinical practice of newly qualified practitioners. Surveys were distributed to directors and clinical educators in both the private and public sectors, metropolitan and regional centres in all states.

There were seven clinical skill areas and six professional responsibility areas. The clinical skill areas were:

- General Radiography
- Trauma Radiography
- Mobile Radiography

- Operating Theatre Image Intensification
- Minor Procedures (e.g. Intravenous Pyelogram)
- Fluoroscopic Procedures
- Computed Tomography

It was decided that Computed Tomography (CT) would be included as one of the clinical skill areas, as this modality is included in the Competency Based Standards for Accredited Practitioners[4].

The professional responsibilities utilised in this survey can be summarized as:

- Ability to assess radiographic requests and facilitate optimal imaging
- Managing workflow according to clinical urgency
- Sharing opinions regarding abnormalities
- Ability to teach and assess undergraduate students
- Critical thinking and problem solving
- Make independent clinical decisions

For each of the skill and responsibility categories, respondents were asked to indicate the amount of time in the workplace a newly qualified practitioner would need (on average) before they could practice *independently in a sole practise situation*. Examples of a sole practitioner situation were offered as either a rural radiographer at a sole site or a metropolitan radiographer in an on-call situation. Respondents were given the following options:

- 1 month
- 3 months
- 6 months
- 12 months

Respondents were asked to mark their responses for those practitioners that had recently completed a 3 year university degree requiring a PDY/NPDP/SPP and/or for those who had recently completed a 4 year university degree.
Respondents were asked to indicate the nature of their workplace, with the options being:

- Metropolitan Public
- Metropolitan Private
- Regional Public
- Regional Private

Surveys were distributed to employer representatives including directors and clinical educators in Queensland, Victoria, New South Wales, Western Australia and South Australia. Upon return, all completed surveys were de-identified and the results collated.

RESULTS

In total 49 surveys were returned. The survey results are summarised in the tables below and the graphs (figures 1 to 14).

Table 1: Clinical Skills

	1 Month		3 Months		6 Months		12 Months	
	3 year Degree	**4 year Degree**	**3 year Degree**	4 year Degree	**3 year Degree**	**4 year Degree**	**3 year Degree**	**4 year Degree**
General Radiography	31%	21%	48%	46%	14%	14%	7%	18%
Trauma Radiography	19%	7%	33%	36%	36%	39%	12%	18%
Mobile Radiography	40%	32%	38%	43%	17%	11%	5%	14%
Operating Theatre	29%	31%	46%	31%	20%	19%	5%	19%
Minor Procedures	24%	19%	39%	41%	32%	26%	5%	15%
Fluoroscopy	23%	22%	33%	26%	30%	37%	15%	15%
Computed Tomography	11%	7%	20%	15%	26%	33%	43%	44%

Table 2: Professional Responsibilities

	1 Month		3 Months		6 Months		12 Months	
	3 year Degree	**4 year Degree**	**3 year Degree**	4 year Degree	**3 year Degree**	**4 year Degree**	**3 year Degree**	**4 year Degree**
Facilitate Optimal Imaging	28%	24%	29%	29%	24%	29%	19%	18%
Manage Radiographic Workflow	0%	0%	17%	15%	35%	26%	48%	59%
Ability to share radiographic opinions	0%	0%	17%	15%	35%	26%	48%	59%
Supervise Students	0%	0%	7%	8%	30%	23%	63%	69%
Make Independent Decisions	5%	4%	26%	29%	29%	21%	40%	46%
Critical thinking and problem solving	5%	3%	20%	24%	44%	31%	31%	42%

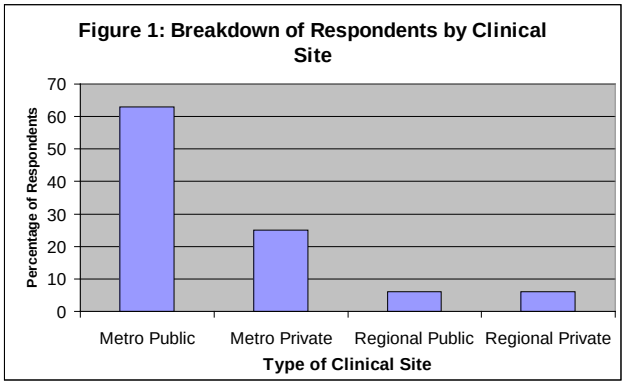


Figure 1: Breakdown of Respondents by Clinical Site
Percentage of Respondents
70
60
50
40
30
20
10
0
Metro Public
Metro Private
Regional Public
Regional Private
Type of Clinical Site

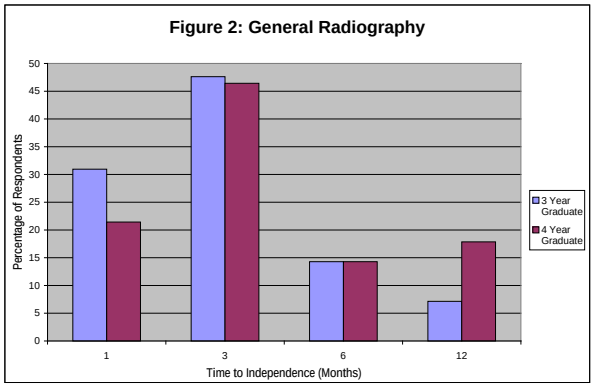


Figure 2: General Radiography
Percentage of Respondents
50
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

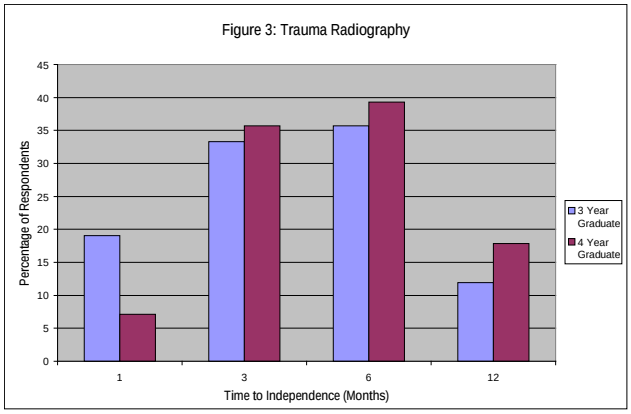


Figure 3: Trauma Radiography
Percentage of Respondents
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

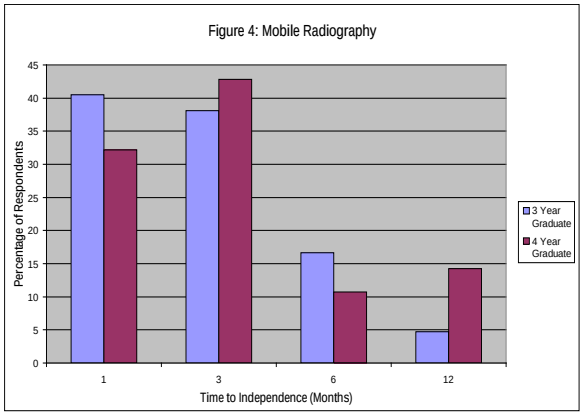


Figure 4: Mobile Radiography
Percentage of Respondents
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

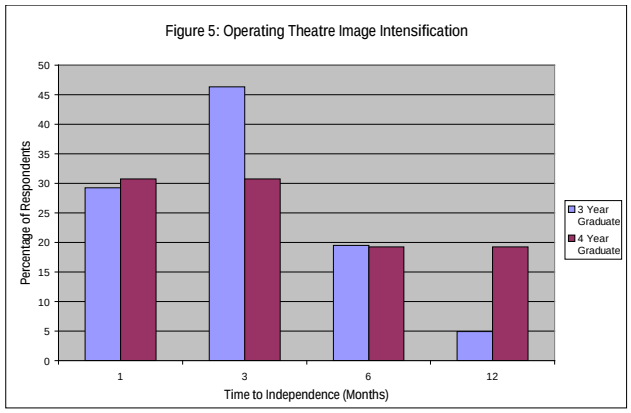


Figure 5: Operating Theatre Image Intensification
Percentage of Respondents
50
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

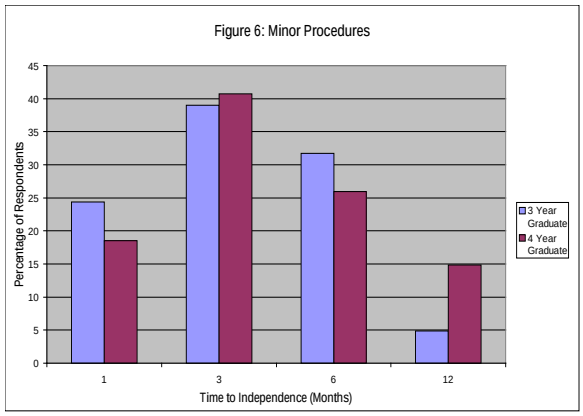


Figure 6: Minor Procedures
Percentage of Respondents
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

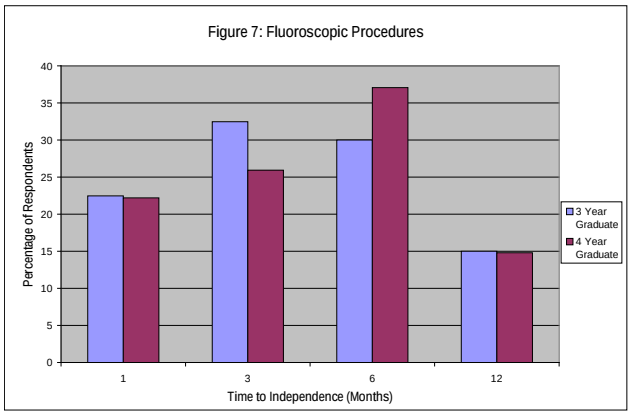


Figure 7: Fluoroscopic Procedures
Percentage of Respondents
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

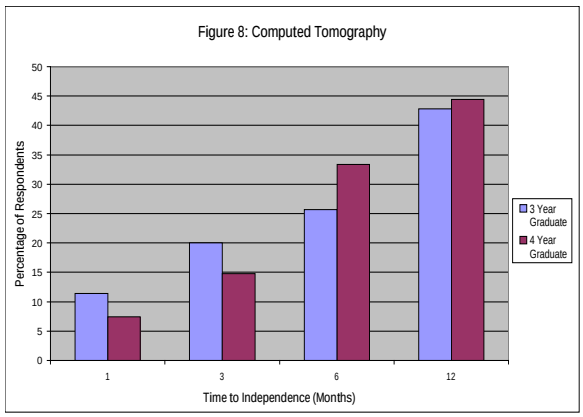


Figure 8: Computed Tomography
Percentage of Respondents
50
45
40
35
30
25
20
15
10
5
0
1
3
6
12
Time to Independence (Months)
3 Year Graduate
4 Year Graduate

Figure 9: Assess Requests & Optimize Imaging

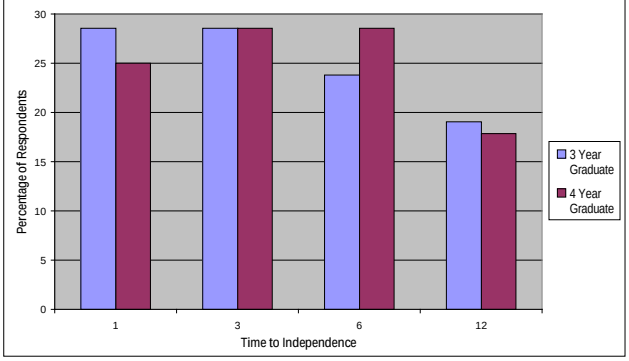


Figure 10: Manage Workflow

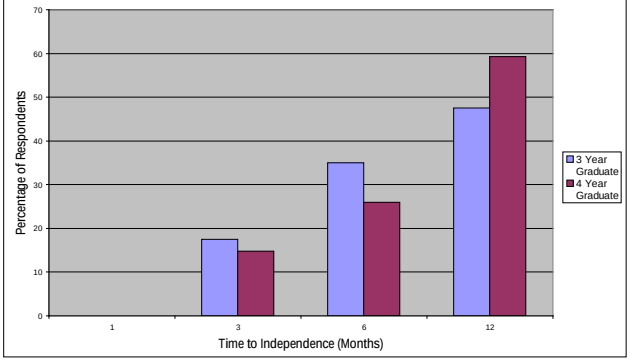


Figure 11: Ability to Share Opinions Regarding Abnormalities

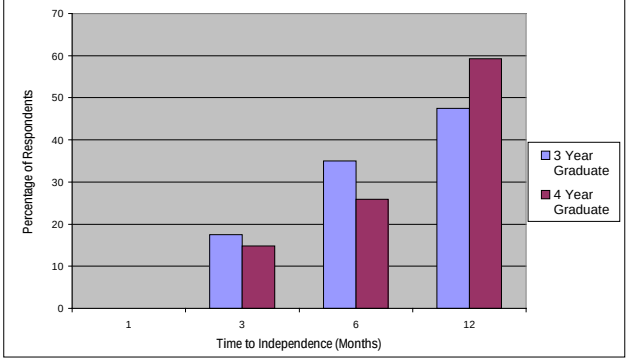


Figure 12: Teaching & Assessing Students

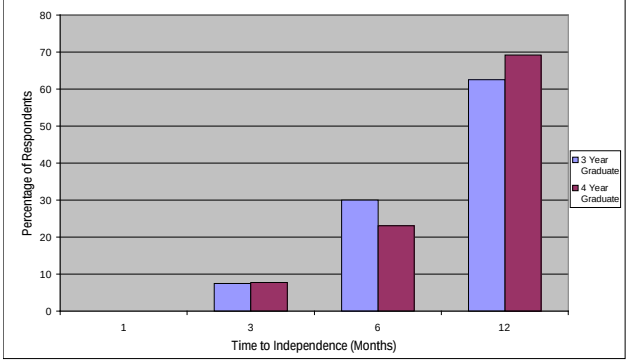


Figure 13: Critical Thinking & Problem Solving

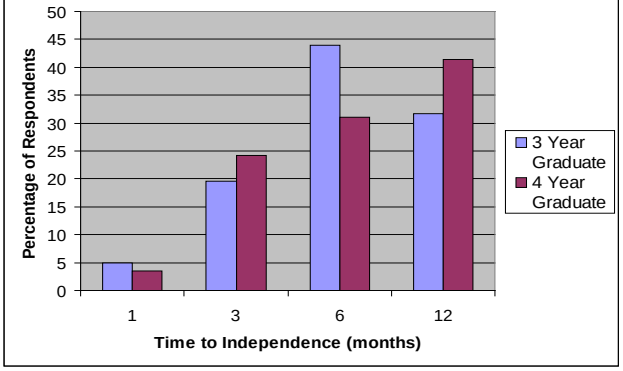
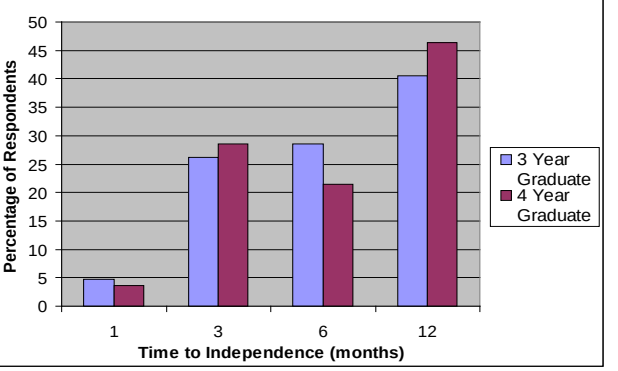


Figure 14: Make Independent Decisions within Scope of Practice



DISCUSSION

In the vast majority of medical imaging departments, new employees undergo a period of orientation, where they spend time learning department specific protocols, familiarise themselves with their new environment and learn many essential 'unwritten' rules. Similarly, those who begin work as sole practitioners need a similar amount of time until they are entirely comfortable to work alone. For the purpose of this survey, any response indicating '1 month' was taken as meaning 'upon commencement'

From the data collected and displayed above (Figures 2-14), none of the respondents considered that 4 year graduates would be independent upon commencement across the spectrum of skills and attributes.

In particular 100% of respondents considered that greater than 1 month would be required to manage radiographic workflow, share opinions with clinicians regarding abnormalities and supervise undergraduate students (all professional responsibilities). In the remaining categories, the vast majority of respondents considered that 4 year graduates are not independent upon commencement in the following:

- Make independent clinical decisions (96%)
- Critical thinking and problem solving (96%)
- Trauma Radiography (92%)
- CT (92%)
- Minor Procedures (89%)
- General Radiography (78%)
- Fluoroscopic Procedures (78%)
- Assessment of radiographic request to facilitate optimal imaging (75%)
- Operating Theatre (69%)
- Mobile Radiography (67%)

The data revealed that for a majority (>50%) of respondents to indicate independence in all aspects of practice, a 4 year graduate needed 12 months of supervised practice. A majority indicated that these graduates are independent in all clinical skills (with the exception of CT) by 6 months, but it would appear that another 6 months was required until independence was gained in the professional and ethical responsibilities.

For the data to indicate that a period of less than 48 weeks is sufficient to ensure independence in a 3 year graduate, no responses indicating 12 months would have been expected. This was not the case, with a significant number of respondents indicating that the full 12 months was required for all of the skills and responsibilities. Similar to the 4 year group, it would appear that the professional responsibilities required more time to develop than the clinical skills.

Data from the survey indicated that reducing the PDY/NPDP/SPP to 6 months would result in workplaces needing to provide supervision to staff beyond that prescribed by the AIR to ensure a safe environment for patients. There was not a single category where all respondents were satisfied that an average graduate (of a 3 year course) would be independent within this time.

Categories where respondents indicated an average graduate needs longer than 6 months were:

- Supervising students (63%)
- Managing workflow (48%)
- Sharing radiographic opinions (48%)
- Computed Tomography (43%)
- Making independent decisions (40%)
- Critical thinking and problem solving (32%)
- Assess requests and optimize imaging (19%)
- Fluoroscopic Procedures (15%)

The purpose of the NPDP is to provide "A mechanism for Australian medical imaging and radiation therapy graduates to attain recognition as an Accredited Practitioner by the AIR "[7]. The AIR defines an accredited practitioner as a "practitioner who has achieved a level of competence commensurate with the Competency Based Standards for the Accredited Practitioner to enable them to accept the responsibilities of practicing independently and be capable of performing the expected role of a practitioner in a sole practitioner"[5].
The data would indicate that reducing the NPDP to 6 months would not provide such a mechanism.

CONCLUSION

The survey results provide indicative data that would suggest that employer representatives believe that no graduate of either 3 or 4 year undergraduate medical imaging courses should practise independently immediately upon graduation. Furthermore, the data indicated that graduates need up to 12 months of supervision to obtain all the clinical competencies and professional and ethical responsibilities before they can be considered ready for independent practice. This observation is consistent with the objectives and guiding principles of the Health Practitioner Regulation National Law Bill Part 1 Section 3 (2) (a) [1] to provide for the protection of the public by ensuring that only health practitioners who are suitably trained and qualified to practise in a competent and ethical manner are registered. The Bill allows for provisional registration for the purpose of enabling an individual to complete a period of supervised practice that the individual requires to be eligible for general registration.

The first graduates of 4 year courses will be entering the Queensland workforce from 2015. Given the opinions expressed by workforce colleagues, it is likely that, at least at the authors' clinical centre, these graduates will be supervised for a period of 12 months before being considered independent practitioners.

It is particularly concerning that such a large number of those surveyed from the workforce consider that graduates of 4 year courses are *not independent despite holding unconditional registration.* This begs the question: 'Are the methods used by universities to assess independence sufficiently detailed and reliable?'

Patient safety of course is paramount for all registered health professionals. Medical imaging professionals, along with their radiation therapist and nuclear medicine colleagues, carry the extra onus of responsibility of ensuring a high level of radiation safety for patients and co-workers. Would it be considered best practice that new graduates not have a period of supervised practice? Consequently is it safe to issue unconditional registration to such a group when the survey results indicated that the views of managers and clinical educators were that a period up to 12 months is required for graduates to achieve independence in clinical skills and professional responsibilities?
The authors would welcome comments, substantiated opinions and constructive feedback, either in the form of letters to the Editor, comparative publications or private communications.

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2. Kilgour, A.J., 2011, Assessment of competency in radiography students – a new approach, The Radiographer, August 2011, Volume 58 (3).
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7. AIR NPDP Guide, pages, 4-5.