

Advanced practice among diagnostic radiographers - An international survey

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ABSTRACT

Introduction: As the global healthcare system evolves, diagnostic radiographers (DRs) are taking on advanced roles, constituting advanced radiography practice. This study explored the definition of ARP tasks among DRs, radiology department managers (RDMs), and National Society Officers (NSOs) on a global scale. **Methods:** Data collection was obtained via a self-developed online survey administered via email and social media to DRs, RDMs, and NSOs. The survey sought to collect demographic data, insights into definition of ARP tasks, and perceptions regarding global practice.

Results: 206 respondents from 25 countries participated, predominantly from Norway ($n = 77$), Australia ($n = 34$), and Portugal ($n = 20$). 71.7 % of DR respondents defined teaching as ARP task, while RDMs (74.2) and NSOs (88.8 %) identified approving image quality independently as ARP. 53.4 % of DRs perceived their practice as ARP-aligned, with awareness reported by 44.8 % of DRs, 66.7 % of RDMs, and 77.8 % of NSOs. **Conclusion:** This study provides a clearer understanding of the task respondents consider ARP and the extent to which it is practiced, whereas DRs are increasingly performing advanced tasks globally. Clarifying ARP tasks in the workplace will promote a common understanding of the role and foster support for its establishment in diagnostic radiography. Further research is required to gather a more comprehensive international perspective on ARP tasks, especially given the limitations of this study, as well as the limited responses from the Americas and African regions.

Implications for practice: Clear definitions of ARP tasks are necessary for seamless integration of ARP into current practices. Additionally, advocating for official recognition, and global acknowledgement by the profession and key stakeholders are imperative for DRs to fully develop in these areas.

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Introduction

The global healthcare system is in a state of evolution, constantly adapting to the changing needs of society.¹ Such evolution is driven by factors such as workforce shortages, increasing workloads, an ageing population, higher demands for MRI radiographers and radionuclide imaging (RNI), and a higher prevalence of chronic illnesses.² Thus, healthcare professionals, including diagnostic radiographers, should develop extended skills to meet an

evolving population and increasing demands for more complex diagnostic procedures.³ As a result, there has been a significant task shift in conventional healthcare roles, giving rise to advanced practice (AP).^{1,2} Moreover, the radiography profession has faced a radiologist shortage since the 1970s, prompting radiographers to regularly assume tasks and roles traditionally performed by radiologists.⁴ While diagnostic radiography has a long history of role development, the formal introduction of the AP concept started in the United Kingdom (UK) in 2003. This introduction formed part of the Radiography Skills Mix Strategy,⁵ consequently facilitating the establishment of what is now acknowledged as ARP.⁶ The UK now boasts a well-defined career structure with four key pillars, with roles ranging from Assistant Practitioners to Consultant Practitioners, supported by the Society of Radiographers accreditation process.⁷ ARP is defined as a radiographer consistently engaging in

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clinical practices, duties, or tasks that exceed the core practice boundaries of their professional practice.³ Currently, the UK,^{8,9} serves as a key example for ARP, with countries such as Australia, Canada, Japan, South Africa, and New Zealand, following behind.¹⁰

The importance of ARP roles has been demonstrated to positively impact patient care due to reduced waiting times, increased job satisfaction for the radiographer, reduced physician workload, and increased cost-effectiveness in the healthcare system.¹¹ For example, Bajre et al.¹² reported improved cost-effectiveness when radiographers interpreted routine chest radiographs, instead of radiologists. In addition, Reid et al.¹² reported improved job satisfaction by radiographers when performing ARP tasks such as computed tomography coronary angiography. By contrast, previous studies have identified challenges in implementing ARP roles, including reluctance to delegate tasks between professions between radiographers and radiologists,¹³ lack of time and funding for ARP training, inconsistent educational programs internationally,¹⁴ and heavy workloads for radiographers.³ Fostering collaboration between radiologists and radiographers, securing funding for ARP training, and standardizing educational programs internationally would help address these challenges more effectively. Advanced practice needs to be grounded in an evidence-based robust practice framework.¹⁵

To gain a better understanding of specific tasks and/or roles that can be defined as ARP and to assess global implementation, the viewpoints of radiographers working in multiple countries needs to be considered. So far, most publications on ARP are predominantly centered around the UK^{7,16,17} and Europe.¹⁸ In fact, there is limited international published data about ARP, with those available primarily concentrating on allied healthcare professionals such as radiation therapists (RTs),¹⁹ and nurses.²⁰

The aim of this study is to explore work tasks that can be defined as ARP among diagnostic radiographers on an international scale, and to assess the extent to which such tasks and/or roles are practiced globally.

Methods and materials

A cross-sectional survey, using three different online questionnaires was developed and distributed internationally between 20th December 2023 and 7th January 2024. Radiographers (diagnostic) (DRs) and radiology department managers (RDMs) working at local, private, and university hospitals/non-university hospitals, as well as National Society Officers (NSOs) from all continents, were eligible for this study. The population of interest excluded radiation therapists/therapeutic radiographers due to existing literature in the profession within this field.

Ethics

Norway and Oslo Metropolitan University initiated this study. Since no sensitive data was collected and all data was collected anonymously with no possibility of tracing back to the respondents, ethical approval from The Norwegian Agency for Shared Services in Education and Research (SIKT) was deemed to be unnecessary. In addition, the study was conducted by the Helsinki Declaration.¹ Informed consent was implied by the completion of the survey by the respondents, as stated in the invitation letter provided to participants beforehand.

Study design and sample

In mid-November 2023, an e-mail explaining the study's purpose was distributed to NSOs inviting them to participate in the study. They were sent a link to the online survey and were kindly asked to

forward the e-mail, which included separate links to the two different online questionnaires that were specifically intended for their National Society members and RDM networks. An email using a country-by-country approach was sent to RDMs, explaining the study's purpose. A snowball sampling strategy was implemented, requesting respondents to forward the email to colleagues for participation.

The contact information for National Societies was obtained from the International Society of Radiographers & Radiological Technologists (ISSRT) webpage.²¹ Additionally, National Societies not listed on the ISSRT webpage were contacted via email using the contact information available on their respective homepages. Subsequently, the survey information was promoted on some of the Society's websites to increase participation. For several countries, initial e-mails were sent to hospitals and private institutions, using a country-by-country approach requesting the forwarding of survey links through official channels. Regular posts on social media platforms were also made (X, LinkedIn, Facebook), to increase the response rate. Survey responses were permitted for five weeks, with two reminders sent after ten days, and another one week before closing the survey. Data collection concluded in January 2024.

Questionnaire development

Three distinct questionnaires were created - one for DRs, one for RDMs, and one for NSOs aiming to gather viewpoints from radiography professionals, managerial stakeholders, and policymakers regarding ARP. The questionnaires were administered through the online survey platform Nettskjema (Version 786, University of Oslo, Norway).

Questionnaires consisted of quantitative questions in the form of closed multiple-choice-, Likert-scale- and open-ended questions. The development of the questionnaires was evidence-based^{22–24} and used feedback from the research team. Separate English and Norwegian versions of the questionnaires were created to accommodate participants from Norway. Two bilingual speakers reviewed the Norwegian questionnaires, while three others reviewed the English versions for accuracy. The questionnaire's final versions (in Norwegian and English) were piloted by five clinically active DRs and two RDMs from private and public hospitals. Based on their feedback, minor changes were made to improve the accuracy of the questions.

Each questionnaire consisted of two main sections: I – Demographic characteristics; II - Advanced professional profile. Each section was further split into sub-sections depending on whether the participant was a DR, RDM, or NSO (Table 1), to explore how participants define ARP roles/tasks, and to which extent such tasks and/or roles are practiced globally.

Data analysis

Quantitative data were analysed using Microsoft Excel 2021 (Microsoft Corporation, Redmond, WA, USA) for descriptive statistics. Normality was evaluated using scatter plots (Fig. 1). Correlation analysis, conducted in SPSS Statistics version 29, employed Pearson's *r* for parametric data and Spearman's *r* for non-parametric data to evaluate relationships between global practice and demographics. Differences among categorical variables were reviewed with a Chi-square test of association. Logistic regression analysis was performed to investigate the odds of classifying a task as APR based on demographic factors. P values of <0.05 were deemed statistically significant.

Correlation analysis evaluates the strength of two continuous variables using a correlation coefficient (*r*), the coefficient ranges from –1 to 1, where 0 indicates no linear association, and values

Table 1
 Questions from survey administered to Radiographers (diagnostic), Radiology Department Managers, and National Society Officers.

Questions category	Question
Questions from survey administered to Radiographers (diagnostic)	
I - Demographics	<ul style="list-style-type: none"> • What is your gender? • What is your age? • What is your education/degree completed? • Which country do you work in? • How many years of job experience as a radiographer do you have?
II – Advanced radiography practitioners' profile	
ARP roles/tasks	• What types of work roles(s)/task(s) do radiographers in your country perform that can be best characterized as advanced radiography practice? (please select all that apply – multiple choice)
Current ARP	• Do you believe you are currently practicing at an advanced radiography level? (Strongly agree to strongly disagree)
ARP awareness	<ul style="list-style-type: none"> • Are you aware of diagnostic radiographers currently performing advanced practice roles in your country, even if it's not officially recognized as such? (yes/no) <ul style="list-style-type: none"> o If yes, please briefly describe what kind of “roles” these radiographers perform that can be characterized as advanced radiography practice in your country.
Questions from survey administered to Radiology Department Managers	
I - Demographics	<ul style="list-style-type: none"> • What continent do you currently work in? (please specify your country) • What type of hospital/institution do you work in?
II – Advanced radiography practitioners' profile	
ARP roles/tasks	• What types of work roles(s)/task(s) do radiographers in your hospital or radiology department perform that can be best characterized as advanced radiography practice? (please select all that apply – multiple choice)
Current ARP	• Do you believe you have radiographers practicing advanced radiography practice at your hospital or in your radiology department, even if it's not officially recognized as such? (choose one of the following options - yes/no).
	o If yes, please describe what kind of “roles” these radiographers perform that can be characterized as advanced radiography practice in your country.
Questions from survey administered to National Society Officers	
I - Demographics	• Which National Society are you an officer in?
II – Advanced radiography practitioners' profile	
ARP roles/tasks	• What types of work roles(s)/task(s) do members of your National Society that can be best characterized as advanced radiography practice? (please select all that apply – multiple choice)
Current ARP	<ul style="list-style-type: none"> • Are you aware of diagnostic radiographers within your National Society who are currently performing advanced radiography practice roles in your country, even if it's not officially recognized as such? (yes/no) <ul style="list-style-type: none"> o If yes, please describe what kind of “roles” these radiographers perform that can be characterized as advanced radiography practice in your country.

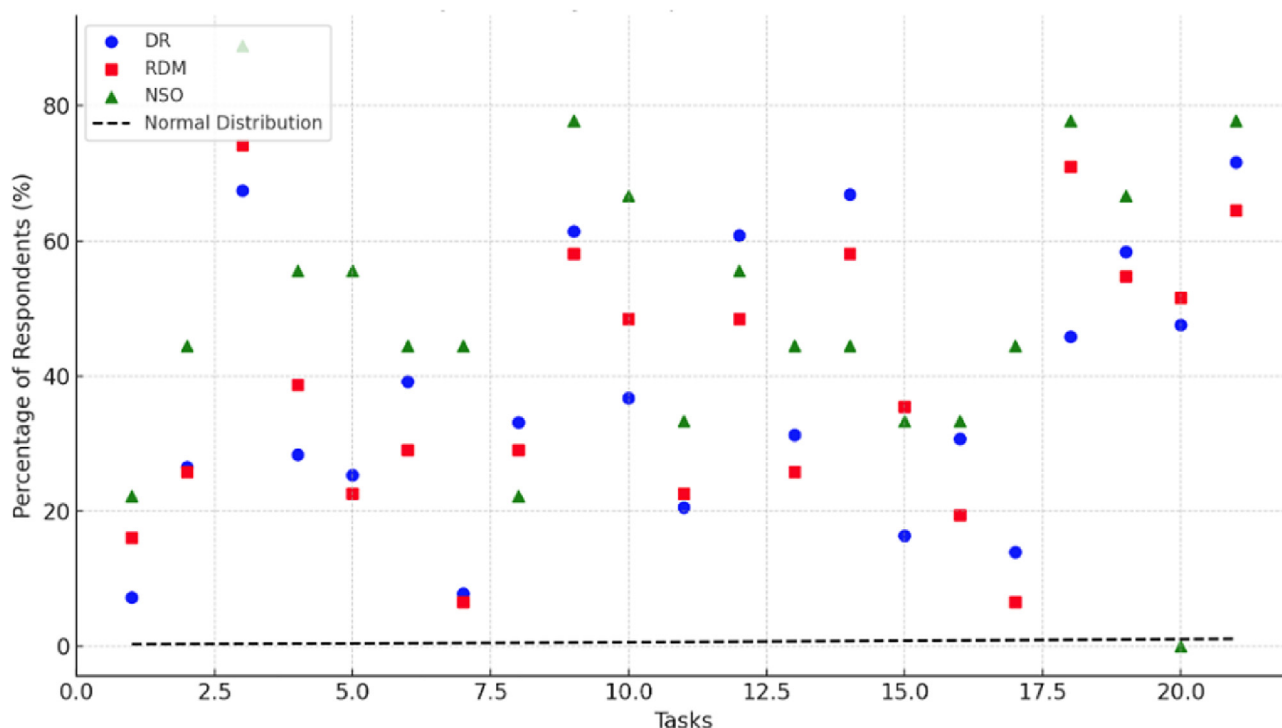


Figure 1. Scatter plot visualizing the percentage of respondents from the three groups— DRs, RDMs, and NSOs —across 21 tasks. Each point represents a task, with circles, squares, and triangles denoting DR, RDM, and NSO, respectively. The plot enables comparison of task engagement across groups.

closer to ± 1 indicate a linear relationship.²⁵ Logistic regression is used to determine the odds ratio (OR) when multiple variables are being analyzed together. An odds ratio greater than 1 implies that as the factor increases, the likelihood of the event occurring also increases, whereas a ratio less than 1 implies that the likelihood of the event decreases.²⁶

Results

Participant demographics

A total of 206 respondents from 25 different countries completed the questionnaire, with the highest representation from Norway (n = 77), Australia (n = 34), and Portugal (n = 20). Out of the respondents, 166 were DRs, 31 were RDMs, and nine were NSOs.

Respondent demographics are detailed in Table 2, which shows that 63.9 % (n = 106) of participating DRs surveyed were female. The predominant age range was 30–39 (n = 56, 33.7 %), with the majority (n = 99, 59.6 %) of participants being 39 years or younger. Most respondents were from Europe (n = 109, 65.7 %), 71 (42.8 %) held a bachelor's degree, and 93 (56.0 %) had over 10 years of experience. Most RDMs were based in Europe (n = 18, 58.1 %) and worked in non-university public hospitals (n = 15, 48.4 %).

AP professional profile

To differentiate between tasks that could be defined as ARP among participants, respondents were presented with a list of 21 predetermined task options (Table 3). DR respondents most frequently identified task 21 as ARP (n = 119, 71.7 %), while both RDMs (n = 23, 74.2 %) and NSOs selected task 3 (n = 8, 88.9 %).

The logistic regression analysis (Table 4) revealed that individuals aged 30 years and above were strongest related to Task 1 (OR = 5.85), while those with 10 years of experience were strongest related to both Task 1 (OR = 11.6) and Task 4 (OR = 7.99). Respondents holding a master's degree or higher identified with Task 17 (OR = 5.62). Regarding geographics, respondents from Africa were strongest related to Task 11 (OR = 6.42), those from Asia/Australasia with Task 12 (OR = 6.0), and respondents from Europe with Task 7 (OR = 8.57). This is detailed in Table 4.

Discussion

Exploring ARP tasks among diagnostic radiographers

This international survey has identified the tasks DRs, RDMs and NSOs define as ARP, and an insight into what extent this is being practiced globally. Responses in Table 3 suggest a growing trend of radiographers assuming more advanced tasks such as quality assurance, problem-solving, independent approval of image quality, and even teaching.

Multiple responses to the task of *teaching* indicate that the respondents are aware of DRs in education and the opportunity that the ARP role might present. This aligns with the viewpoints in existing literature,¹⁷ highlighting the importance of radiographers taking on the responsibility of guiding the growth of other healthcare professionals and students.²⁷ This commitment involves a wide range of activities such as leading continuing professional development (CPD) initiatives, tutoring, engaging in community outreach events, and creating educational resources such as audits, case studies, and discussion papers.²⁷ Additionally, radiographers are increasingly involved in academic pursuits by sharing their teaching materials through publications and presentations at various levels.²⁷

Table 2

Demographic information by participant group (n = 206: DR = 166, RDM = 31, NSO = 9).

Demographics for radiographers (diagnostic)	n (%)	Mean (SD)
Gender		
Male	56 (33.7)	
Female	106 (63.9)	
Prefer not to say	4 (2.4)	
Age, years		
		27.6 (17.4)
20 to 29	43 (25.9)	
30 to 39	56 (33.7)	
40 to 49	45 (27.1)	
50 to 59	13 (7.8)	
More than 60 years	8 (4.8)	
NR	1 (0.6)	
Years' experience, years		
		15.0 (6.6)
1 to 5	40 (24.1)	
6 to 10	32 (19.3)	
More than 10 years	93 (56.0)	
NR	1 (0.6)	
Highest level of education		
College Diploma	7 (4.2)	
Undergraduate	8 (4.8)	
PG Diploma or Certificate	7 (4.2)	
Bachelor's Degree	71 (42.8)	
PG Degree	58 (35.0)	
Master's Degree	5 (3.0)	
Doctoral Degree	9 (5.4)	
NR	1 (0.6)	
Work continent		
Asia	19 (11.5)	
Europe	109 (65.7)	
Oceania	30 (18.1)	
North America	1 (0.6)	
Africa	7 (4.2)	
Demographics for Radiology Department Managers		
Work continent		
Asia	5 (16.1)	
Europe	18 (58.1)	
Oceania	5 (16.1)	
North America	1 (3.2)	
Africa	2 (6.5)	
Type of workplace		
Public hospital (non-university)	15 (48.4)	
Public hospital (university)	11 (35.5)	
Private hospital	3 (9.7)	
Private practice	1 (3.2)	
Primary care	1 (3.2)	
Demographics for National Society Officers		
Society information		
Portuguese Association of Medical Imaging and Radiotherapy (APIMR)	1 (11.1)	
Radiological Society of Zambia	2 (22.2)	
Society of Radiography of Uganda	1 (11.1)	
The Canadian Association of Medical Radiation Technologists (CAMRT)	1 (11.1)	
The Society of Radiographers – United Kingdom	1 (11.1)	
The Society of Radiological Technologists (Sri Lanka)	1 (11.1)	
Society of Indian Radiographers	2 (22.2)	

PG = postgraduate, n = number of respondents, NR = non-respondents, SD = standard deviation.

The strong recognition of *quality projects* as ARP tasks among radiographers reflects a broader trend in the literature (Table 3).²⁸ An article by Bruno²⁹ suggests initiatives such as quality improvement projects to improve imaging services and departmental procedures, fostering interdisciplinary collaboration and benefiting patient care.²⁹ Interestingly, the survey indicates a disparity in perceptions between DRs, RDMs and NSOs regarding what constitutes an ARP task. Specifically, while DRs highlight clinical and technical competencies as ARP tasks, RDMs and NSOs extend this definition to involve research and leadership tasks, risk

Table 3
Tasks and roles that can be defined as ARP by participant group (n = 206: DR = 166, RDM = 31, NSO = 9).

Task	Task/roles	n (%) DR	n (%) RDM	n (%) NSO
1	Prescribe medication within the scope of practice (e.g., prescribe medications independently, without the need for a physician's prescription)	12 (7.2)	5 (16.1)	2 (22.2)
2	Administer medication within the scope of practice (e.g., administer medications independently, without the need for a physician's prescription)	44 (26.5)	8 (25.8)	4 (44.4)
3	Approve image quality independently (including complex cases)	112 (67.5)	23 (74.2)	8 (88.9)
4	Assess patients (take history or conduct physical examinations)	47 (28.3)	12 (38.7)	5 (55.6)
5	Check/verify reports from others	42 (25.3)	7 (22.6)	5 (55.6)
6	Comprehensive patient care (e.g., addressing anxiety, emotional distress, diet, and exercise intervention)	65 (39.2)	9 (29.0)	4 (44.4)
7	Discharge patients as a radiographer (under protocol, e.g., from the emergency department)	13 (7.8)	2 (6.5)	4 (44.4)
8	Engage in intervention (e.g., biopsies, inserting central venous catheters, and nasogastric tubes)	55 (33.1)	9 (29.0)	2 (22.2)
9	Engage in problem-solving (e.g., addressing issues with anatomical markers or image orientation)	102 (61.4)	18 (58.1)	7 (77.8)
10	Independently lead and/or collaborate in research	61 (36.7)	15 (48.4)	6 (66.7)
11	Interpret and report images (e.g., providing definitive written and/or verbal reports to referring clinicians)	34 (20.5)	7 (22.6)	3 (33.3)
12	Justify the need for examination (e.g., deciding whether to perform)	101 (60.8)	15 (48.4)	5 (55.6)
13	Offer specialized patient information (e.g., pre/during/post-treatment details)	52 (31.3)	8 (25.8)	4 (44.4)
14	Perform quality assurance or quality control (e.g., using phantoms, participating in quality improvement projects)	111 (66.9)	18 (58.1)	4 (44.4)
15	Perform sonography (e.g., independently perform ultrasound examinations as a radiographer)	27 (16.3)	11 (35.5)	3 (33.3)
16	Provide immediate patient information (e.g., independently informing patients or referring physicians about abnormalities immediately upon detecting them under an imaging examination)	51 (30.7)	6 (19.4)	3 (33.3)
17	Receive requests to report images (on demand)	23 (13.9)	2 (6.5)	4 (44.4)
18	Risk management (e.g., establishment of a radiation safety culture, participating in risk improvement project)	76 (45.8)	22 (71.0)	7 (77.8)
19	Supervise others in normal and complex procedures	97 (58.4)	17 (54.8)	6 (66.7)
20	Lead a team in normal and complex procedures	79 (47.6)	16 (51.6)	0 (0)
21	Teaching (e.g., instructing students, nurses, and doctors)	119 (71.7)	20 (64.5)	7 (77.8)

Abbreviations: ARP- Advanced Radiography Practice, N = number of participants performing the task, DR = Diagnostic Radiographer, RDM = Radiology Department Manager, NSO=National Society Officer.

Table 4
Odds ratios (OR) for the probability of classifying a task as advanced radiography practice in relation to the demographic characteristics.

Demographic characteristic	Task number and definition	Sig ^a	OR ^b
Group age			
<30	T2: Administer medication within scope	0.202	2.19
≥30	T1: Prescribe medication within scope	0.120	5.85
	T3: Approve image quality independently	0.133	3.23
	T19: Supervise others in procedures	0.005	3.15
Group job experience			
<10	T2: Administer medication within scope	0.312	1.74
	T18: Risk management	0.303	1.52
≥10	T1: Prescribe medication within scope	0.022	11.6
	T4: Assess patients	0.007	7.99
	T5: Check/verify reports from others	0.108	1.83
	T8: Engage in intervention	0.102	2.0
	T21: Teaching	0.01	2.66
Group education level			
Master's degree or lower	T4: Assess patients	0.051	5.45
	T7: Discharge patients as a radiographer	0.147	4.79
	T13: Offer specialized patient information	0.020	8.60
	T15: Perform sonography	0.038	5.64
Higher than Master's degree	T17: Receive requests to report images	0.287	5.62
	T20: Lead a team in procedures	0.07	3.5
Group Location of survey			
Africa	T6: Comprehensive patient care	0.268	4.4
	T11: Interpret and report images	0.063	6.42
Asia/Australasia:	T9: Engage in problem	0.265	2.19
	T10: Independently lead and/or collaborate in research	0.122	2.68
	T12: Justify the need for examination	0.079	6.0
	T13: Offer specialized patient information	0.018	5.44
	T14: Perform quality/assurance control	0.025	5.79
	T15: Perform sonography	0.069	5.83
	T16: Provide immediate patient information	0.589	1.4
Europe:	T7: Discharge patients as a radiographer	0.075	8.57
	T8: Engage in intervention	0.05	3.84
	T20: Lead a team in procedures	0.020	3.21

Abbreviations: T = Task.

^a Significance.

^b Odds Ratio.

management, and supervisory roles (Table 3). This may reflect the complexity of modern healthcare and the evolving needs of radiology departments and may imply that key stakeholders understand the value of non-clinical abilities in ARP roles.

Respondents viewed independent prescription of medicine and discharge of patients as radiographers as outside the ARP role (Table 3), potentially due to legal and licensing requirements. This aligns with literature highlighting medical resistance as a barrier to radiographers' role development.³⁰ Despite UK radiographers having supplementary prescriptions rights of controlled medications since 2005, independent prescriptions remain prohibited.³¹ Expanding DRs roles to include prescription of medications and patient discharge would significantly impact clinical practice. It would streamline patient care by reducing delays associated with waiting for physicians to authorize prescriptions and discharge patient, this improving efficiency.^{30–32}

Nevertheless, a growing discussion among representative bodies including the Society of Radiographers, advocates for broader prescription rights, including for DRs.³³ This aligns with findings from a study by Lim et al.³⁴ among RTs, where 68 % of the RTs acknowledged medicine prescriptions as beyond the scope of AP for RTs, citing legal and ethical concerns. Interestingly, despite the majority of respondents not perceiving patient discharge as a part of ARP roles in this study, an article by Snaith et al.,³⁵ found that radiographers pursuing AP roles are involved in streamlining emergency care pathways by discharging patients with normal radiographs under a documented management plan. However, restrictions in many countries and regulatory issues may constrain the extent to which radiographers can undertake such activities.

This study's findings extend beyond the traditional tasks associated with ARP, which include IV cannulation – often performed by assistant practitioners in the UK today – image interpretation across modalities such as plain chest X-rays, CT, and MRI, and leading specialized procedures like barium enema examinations.^{31,36} In line with an article by Nightingale and Hogg,³⁷ other elements were reported as ARP and include tasks such as educational initiatives, consultation on patient management, active intervention, problem-solving, and influencing the patient pathway (Table 3). DRs engaging in more advanced tasks is a positive development, demonstrating both cost-effectiveness and reducing radiologists' workload, ultimately shortening wait times for reports and procedures.³⁸ However, Daly and Carnell²⁰ raised concerns regarding incorporating advanced tasks into core responsibilities stating the importance of retaining essential aspects of the profession while adapting to changing healthcare needs.

Respondents with a master's degree or lower appeared to be more engaged in direct patient care activities such as patient assessment, discharge, and providing specialized information (Table 4), as in line with the literature in other healthcare professions (e.g., RTs).¹⁹ This may reflect on more foundational skills within a radiographer's scope of practice. Conversely, those with educational levels higher than a master's degree reported being involved in more advanced tasks such as leading procedural teams and reporting images, extending beyond direct patient assessment (Table 4). This confirms the existence of diagnostic radiographers performing ARP roles internationally, with the evidence of professionals undertaking several tasks and activities at an advanced level.¹⁹

Global practice on ARP

In a survey by Kinamore surveying RTs,²² most respondents did not perceive their practice to be at an AP level. This contrasts with the study's findings, where most respondents believe their current practice aligns with an ARP level (Fig. 2a). Though a useful conclusion is difficult to draw, the perception discrepancies may stem from organisational culture and professional identity, influencing how professionals evaluate their level of practice.

A significant correlation was found between work experience and self-perception of practicing ARP, particularly supervising others in procedures and leadership tasks in a similar context. Participants' perception and awareness of DRs performing ARP tasks (Fig. 2b) suggest a desire within the radiography community to develop their professional skills.³⁹ This echoes previous literature, as many would argue they include AP in clinical duties,³⁶ where a survey by the Australian Institute of Radiography (AIR) reported that 54 % of participating radiographers unofficially interpret trauma images for doctors.³⁶

The study has some limitations that should be taken into consideration. Firstly, there were a limited number of respondents from Africa and America, potentially limiting findings from individuals working in those regions. The data was also skewed due to the overrepresentation of respondents from countries such as Norway, Australia and Portugal, creating geographical bias.⁴⁰ Secondly, participants require internet access to complete the survey, which could be challenging, particularly in developing countries. Internet access may be restricted to workplaces or hindered by poor connectivity.⁴¹ For future surveys, translation into languages other than English and Norwegian must be considered, as language barriers may have affected participation for some individuals.

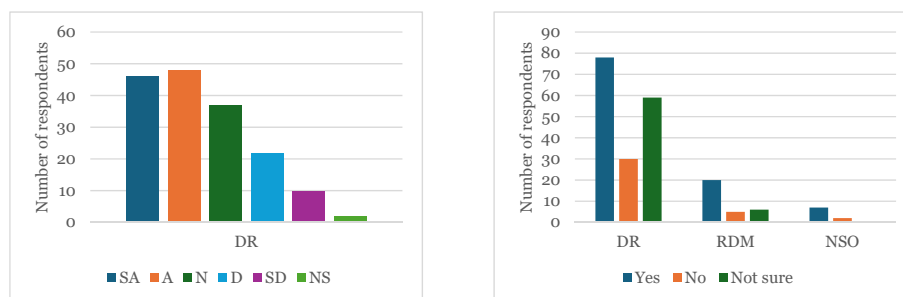


Figure 2. 2a. DRs reported belief in practicing at an ARP level. Abbreviation: SA-strongly agree; A-agree; N-neutral; D-disagree; SD-strongly disagree; and NS-not sure. 2b. Reported awareness of DRs performing at an ARP level even if not recognized as such by participant group.

Conclusion

Our study identified important findings, regarding the performance of ARP tasks across different regions. This study discovered a wide range of ARP tasks, showing a developing trend of DRs assuming more advanced tasks globally. Additionally, most respondents viewed their current practice at an ARP level, indicating a growing enthusiasm among DRs to develop their professional abilities and capabilities. Clarity of the specific tasks and roles that can be defined as ARP will aid in ensuring a common understanding of the role in the workplace and foster support for its establishment in diagnostic radiography. Therefore, this study's findings will contribute to the evolving radiography profession, particularly in the context of ARP, and serve as a benchmark for DRs aspiring to pursue ARP tasks/roles.

Implications for practice

The study findings suggest several considerations that key stakeholders should carefully address for future action. Firstly, the profession and stakeholders must clearly define what tasks constitute ARP. This may aid in developing clear guidelines and a more seamless implementation of ARP tasks into current practices. Moreover, it's essential for managerial stakeholders and policymakers to actively support and advocate for official acknowledgement and global recognition of ARP roles, along with appropriate training and proper regulatory frameworks. This will ensure that all radiographers have access to the necessary tools and training to develop in these areas fully.⁴⁰

Conflict of interest

None.

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