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International recruitment of radiographers and the development of a workplace integration support package: Project evaluation

G. Golder [a], E. Ladd [b], K. Mills [c], R. Thain [d, *], S. Disney [e]

[a] Teacher Education Plymouth Marjon University, Derriford Road, Plymouth PL68BH, UK
[b] NHS England (South West), South West House, Blackbrook Park Avenue, Taunton TA1 2PX, UK
[c] Cancer and Diagnostics Programme, Health Education England, 4, Stewart House, 32 Russell Square, London WC1B 5DN, UK
[d] Learning Solutions and Innovation Plymouth Marjon University, Derriford Road, Plymouth PL68BH, UK
[e] Plymouth Marjon University, Derriford Road, Plymouth PL68BH, UK

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ABSTRACT

Introduction: In October 2020, a regional workforce action group was established jointly by Health Education England (HEE) and NHS England and Improvement (NHSEI) in the South West to work collaboratively to address the workforce challenges within diagnostic imaging. Fifty-eight internationally recruited radiographers were offered employment in departments across the region, the majority of them taking up their posts in the UK in early 2021. The aim of the study presented here was to evaluate the efficacy of a training resource developed by Plymouth Marjon University, with input from HEE and NHSEI, to support workplace and cultural integration for the new recruits.
Methods: The training package to help newly recruited radiographers from outside the UK integrate into their host departments was developed using flexible learning opportunities centred on reusable digital learning assets. Self-paced e-learning sessions were augmented by group 'connected' sessions online. Two surveys were undertaken, exploring the impact of this workforce integration programme for International radiographers joining the NHS.
Results: Survey results indicate that the integration programme's three-phase strategy has seen an impact on 6 out of 12 self-efficacy measures, raised awareness of challenges, and increased personal awareness of implications for practice. By the end of the programme, delegates were in the top two quintiles for their average well-being score.
Conclusion: Principal recommendations include ensuring digital accessibility for new recruits as part of the on-boarding process, considering the timing of delivery of any online connected support sessions, the provision of long-term pastoral support; and mandating the training requirement for managers and team leaders.
Implications for practice: Success of international recruitment campaigns can be enhanced through the implementation of an online integration package

Introduction

The newly formed NHS England and Improvement (NHSEI) imaging team in the South West have moved forward with plans to support the region's 'Adapt and Adopt' project in the recovery and restoration of diagnostic services. A report[1] focusing on radical investment and reform of diagnostic services was added to as the Covid-19 pandemic has further amplified the need for change in the provision of diagnostic services. The research-informed key strategic objective of maximising and increasing the efficiency of service delivery and workforce has been a key driver for this work.[2]

A regional dedicated imaging leadership team targeted specific areas around recovery response, driving the future imaging agenda forwards at pace. The team worked alongside Health Education England (HEE) and identified a short-term primary intervention to undertake a large international recruitment campaign to address the immediate workforce shortfall. A workplace integration programme was developed to improve the lived experiences and cultural transition of internationally recruited radiographers. The two main aims of the project were:

* Corresponding author.
E-mail addresses: ggolder@marjon.ac.uk (G. Golder), elizabeth.ladd1@nhs.net (E. Ladd), kerry.mills@hee.nhs.uk (K. Mills), rthain@marjon.ac.uk (R. Thain), sdisnet@marjon.ac.uk (S. Disney).
(G. Golder)

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Abbreviations

HEE	Health Education England
IEN	internationally educated nurses
NHS	National Health Service
NHSEI	NHS England and Improvement
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
WHO	World Health Organization

1. To secure employment for a substantial number of diagnostic radiographers within the Southwest region (50+)
2. To develop a package of support to assist with the cultural and workplace integration and improve retention of international radiographers coming to work in the region.

In 2020 it was identified a package of learning would benefit the integration of these new recruits into their host radiography departments and could be enhanced considerably by focusing on a strong emphasis on language and communication, thus help people understand and deal with some behavioural norms in the UK that may be different to their previous experiences. The pedagogic approach was informed using the experiences of international radiographers already living and working in the region, and through seeking guidance from clinical teams. To support departments with minimal experience of supporting international colleagues, resources and workshops were designed to assist department teams to facilitate successful integration of international colleagues into clinical teams.

Project outcomes

Initial scoping discussions with HEE, identified desirable outcomes from the training package emerged: The new recruits:

1. Should know what to expect in terms of language and communication and challenges related to integration in the workplace when they start work within their departments;
2. Will have an improved level of awareness of the challenges ahead especially in language and communication;
3. Will have an enhanced ability to deal practically with professional challenges relating to language and challenges within the workplace; and,
4. Team leaders and management teams will have an appreciation of the challenges facing the new recruits, and an awareness of how to help.

Literature review

Three themes were explored from the research literature and informed the development, delivery and impact evaluation of the project.

Workplace integration

In 2004, OECD[3] reported shortages in health care practitioners could pose a problem unless countermeasures are taken, this was echoed by The World Health Organization (WHO), who reported that health labour force shortages are the most serious threat to the right to health by the world's population today.[4] Strategies for training, retention and recruitment from abroad have been used with varying degrees of success to increase the number of doctors.[3] This threat has resulted in significant migration of health workers who have gained their basic professional or further professional education in a country different from the one in which they are practicing. This phenomenon is explored most in research focusing on internationally educated nurses (IEN).[5–7] A range of workplace integration training programmes have been established to support the increase of international practitioners into the health labour force, e.g. Ramji, Etowa, & St Pierre[8] (p6) promote a two-way process requiring efforts from both the IEN and organisation. This is further explored under three sub-processes: '(1) Respecting diversity and difference, (2) Adopting inclusive practices and (3) Striving to achieve equity'. A mandate from the Government to HEE (April 2014 to March 2015) required HEE to 'develop a more flexible workforce that is able to respond to the changing patterns of service and embraces research and innovation to enable it to adapt to the changing demands of public health, healthcare and care services'[9] (p6). To achieve these aims, four objectives have been established in the strategy: Objective 1 is to 'Establish a system-wide coherence to education and training which will facilitate and sustain the organisational and cultural changes required to embed research and innovation'.

Communication and language

Magnusdottir[10] reported on research that explored an overarching theme of growing through experiencing strangeness and communication barriers. Five themes to their work included tackling the multiple initial challenges, needing to be let in, the language barrier, different work culture and finally, overcoming these challenges. This research identified the importance of language for personal and professional well-being and argued that language and culture are inseparable entities.

Ramji et al.[8] support the view that communication and language are hurdles to overcome, not only where IENs need to learn cultural nuances of behaviours of their diverse patients and colleagues but also that many IENs have had the added challenge of mastering 'Canadian' English. One significant challenge that IENs face in learning to communicate in Canadian English, especially concerns the appropriate use of idioms, jargon, slang and acronyms. The challenges of language and communication for international health care workers has been explored in the literature.[11,12] Xu[11] suggests that communication poses a formidable challenge, particularly relating to accents, colloquialism, stress and lack of familiarity with the practice environment. A critical aspect of workforce integration is, therefore, the acquisition of communication and language skills so they can perform their duties and responsibilities competently. Workplace culture and communication challenges remind IENs of their 'foreignness' and potential to feel a lack of belonging, which often increase their sense of vulnerability.[8]

Well-being

Over the last two decades, the body of research into what contributes to the quality of people's experiences of their lives has grown, which has enabled a new understanding of the factors that both influence and constitute well-being. Well-being can be understood as how people feel and how they function, both on a personal and a social level, and how they evaluate their lives as a whole.[13]

According to National Accounts of Well-Being (NAWB)[14] 'The science of 'subjective well-being' suggests that as well as experiencing good feelings, people need:

- a sense of individual vitality
- to undertake activities which are meaningful, engaging, and which make them feel competent and autonomous
- a stock of inner resources to help them cope when things go wrong and be resilient to changes beyond their immediate control'

Personal well-being is a subjective assessment of how people feel about their own lives. In the UK, personal well-being data from the Annual Population Survey (APS) are available in one and three-year data sets. There are 4 measure that make up Personal well-being, an individual's feelings of satisfaction with life, whether they feel the things they do in their life are worthwhile and their positive (happiness) and negative emotions (anxiety). These data show that there has been an increase in overall well-being in the UK[15] with a UK average of 63.2% in 2016.

Waddell and Burton[16] suggest there is strong evidence showing that being in work is generally good for physical and mental health and well-being, although the extent of the benefits may depend on job quality and job satisfaction. ONS[14] add that work can be a very important part of our lives, providing structure, routine and a sense of self-worth, which are all important to well-being.

NEF[17] suggests people's feelings or emotions, such as happiness or anxiety, are the headonic aspect of well-being. Leading 'a life well lived', interacting with the world around you to meet basic psychological needs e.g experiencing a sense of competence are the eudaimonic aspect of well-being. Finally, the evaluative elements of well-being refer to people's own appraisals of how life is going, or aspects of their lives, e.g. job satisfaction.

Well-being is most usefully thought of as the dynamic process that gives people a sense of how their lives are going, through the interaction between their circumstances, activities and psychological resources or 'mental capital'. In 2008 NEF developed a Dynamic Model of Well-Being (Fig. 1). The model suggests that when people function well and experience positive emotions day-to-day and overall, we can think of them as 'flourishing'; but this flourishing is influenced by how an individual's external conditions e.g. income, employment status and social networks interact with their personal resources e.g. health, resilience and optimism.

Focusing on well-being can help employers and individuals understand 'what makes people's lives go well, see the positive things people bring to situations, and understand people's emotional and social needs, projects and services can be better designed to respond to the many aspects that make up people's lives'[13] (p8).

Methods

Following the successful international recruitment campaign with 58 international radiographers joining the region from March to May 2021 a bespoke online learning package was implemented. It was designed to support and provide a smooth transition through onboarding and beyond to both new recruits and their residing departments. It was intended that this provision would encourage and enable positive levels of retention and well-being within this staff group in the long term.

The package was designed around a three-phase strategy that focused on a targeted 'before, during and after' intervention which are outlined below:

- A series of webinars and discussions used Appreciative Inquiry as a method to explore the lived experiences of international radiographers already working in the UK. The findings were used to influence and guide the development of the support package
- Subject specialists were briefed to design the online learning resources, focusing on both educational and workplace integration, plus more generic cultural acclimatisation aspects
- New recruits' expectations and perceptions were assessed prior to arrival and evaluation repeated after three month's employment. This evaluation would identify the effectiveness of the various interventions and help plan for a sustainable support package going forwards.

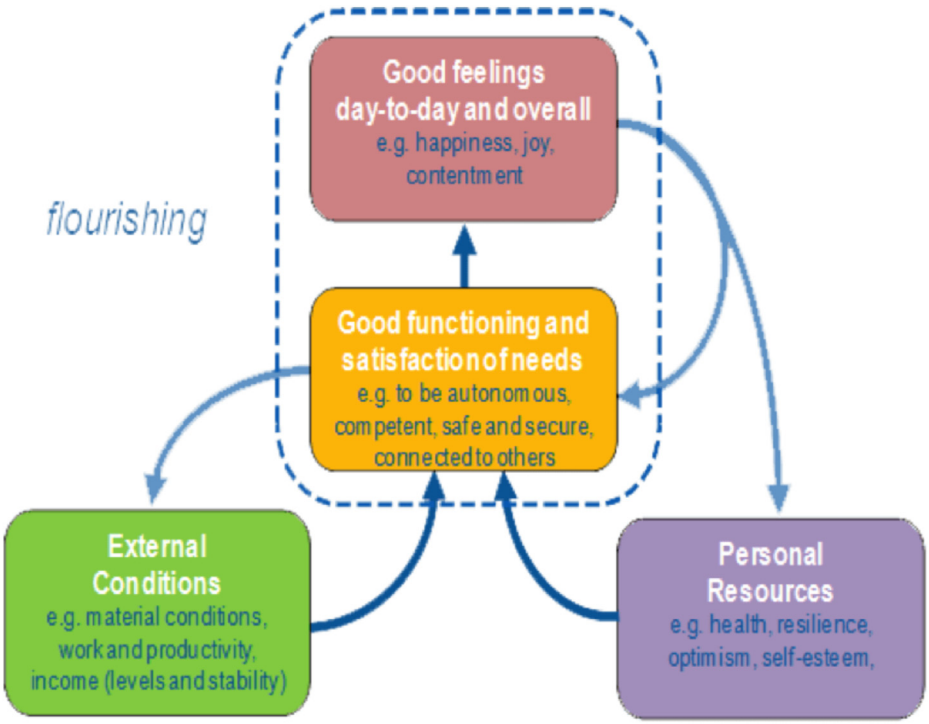


Figure 1. NEF's dynamic model of well-being.

Figure 2. E-learn core themes.

The delivery of the learning package required careful consideration due to Covid restrictions and the digital connectivity of the recruits.

The learning design

The digital revolution has significantly altered how people learn. Flexibility in learning is of paramount importance; a recent study[18] highlighted that the first two ranked areas of importance in learning for Generation Z students are flexibility in their learning, and self-paced learning. The project adopted Plymouth Marjon University's eLEARN model, to develop and deliver effective online and e-learning content:

- **L**isten: The core 'taught' content.
- **E**ngage: Engaging learners in active learning
- **A**ctivity: Independent tasks and enhanced learning
- **R**eview: Has the learner fully understood the topic?
- **N**ext: Moving on to the next eLEARN session

To facilitate the requirements the e-LEARN sessions were developed to explore 5 core themes for radiographer recruits and 3 core themes for managers or team leaders (Fig. 2). A 2-h 'connected' online Workplace Support Session was provided each week facilitated by a by a tutor.

Data collection tools

Two surveys were developed using established measures to explore the impact of the workforce integration programme for International radiographers joining the NHS.

Each survey had three distinct sections: Section one focused on well-being and integrated two established sets of questions about well-being using the Short Warwick Edinburgh Mental Well-being Scale (SWEMWBS)[19] and the ONS[15] subjective well-being questions. The second section focused on language and communication and utilised a generic assessment instrument to capture the skills used in 'prolonged patient-centred conversations performed by the different occupational groups developed by Axboe et al.[20] (p2). The final section included an open-ended question for further comments.

Out of the 58 radiographers enrolled on the programme, the response rate for pre-intervention was 40/58 (68.9%); however, this reduced to 14/58 post intervention (24.1%). The reasons for this reduction understood to relate to radiographers feeling fully inducted into their host departments by the end of the programme and, therefore, too busy working to complete the questionnaire.

Results

The participants were surveyed before and after the course using the standard SWEMWBS. Figs. 3a and 3b illustrate the pre- and post-percentage scores against the 7 scale measures.

The average for 'often' or 'all of the time' has decreased from 81.1% to 73.5% but it should also be noted that the percentage of a smaller sample in the second survey (n = 14) compared to the first survey (n = 40) may have skewed these results.

Table 1 illustrates the scores for the SWEMWBS at the end of the intervention, which compares the National average to observed score from the participants. This result is in the top two quintiles and represents a 'good' score.

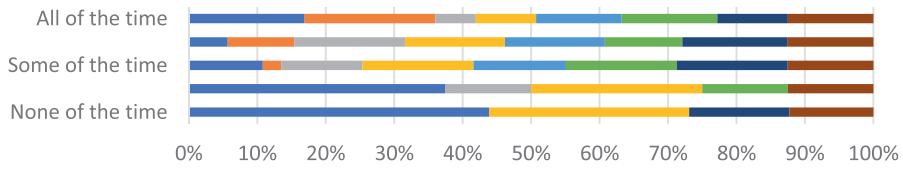
The Office for National Statistics'[15] subjective well-being questions are a set of four questions with a response scale of 0–10, intended to capture what people think about their well-being.

Fig. 4 below indicates the pre- and post-intervention measure for well-being compared against the National average in 2019.

The group result at the end of the intervention highlighted in Table 2 shows delegates are in the top two quintiles for their average well-being score, both compared to national and regional (South West) responses.

The second aspect of the survey measured the respondents' views on their personal levels of self-efficacy both before and after attending the communication skills part of the training course to compare the level of skills evaluated by perceived self-efficacy. Each question began with the words: "How certain are you that you are able to successfully …" followed by a specific communication skill. A 100-point response scale ranging from 1 (very uncertain) to 100 (very certain) was chosen inspired by Bandura's[28] guide for constructing self-efficacy scales.

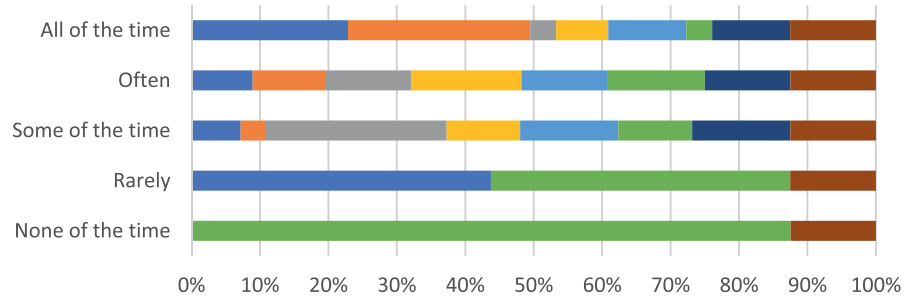
When comparing the sum scores in the group prior to the intervention with those of the group after the intervention, we found higher scores of six of the self-efficacy questions in the post-intervention group as identified in Table 3. The mean sum score in



	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	7.5	7.5	10	17.5	57.5
I've been feeling useful	0	0	2.5	30	65
I've been feeling relaxed	0	2.5	11	50	20
I've been dealing with problems well	5	5	15	45	30
I've been thinking clearly	0	0	12.5	45	42.5
I've been feeling close to other people	0	2.5	15	35	47.5
I've been able to make up my mind about things	2.5	0	15	47.5	35
Average	2.1	2.5	11.6	38.6	42.5

(A)

Figure 3a. Pre Intervention SWEMWBS % scores.



	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	0	7.1	14.3	35.7	42.9
I've been feeling useful	0	0	7.1	42.9	50
I've been feeling relaxed	0	0	52.9	50	7.1
I've been dealing with problems well	0	0	21.4	64.3	14.3
I've been thinking clearly	0	0	28.6	50	21.4
I've been feeling close to other people	7.1	7.1	21.5	57.1	7.1
I've been able to make up my mind about things	0	0	28.6	50	21.4
Average	1.01	2.03	24.9	50	23.5

(B)

Figure 3b. Post Intervention SWEMWBS % scores.

Table 1
SWEMWBS average scores and National comparison.

Combined SWEMWBS score (out of 35)	
Participant average score	26
The score falls between the 41% and 60% of responses	GOOD

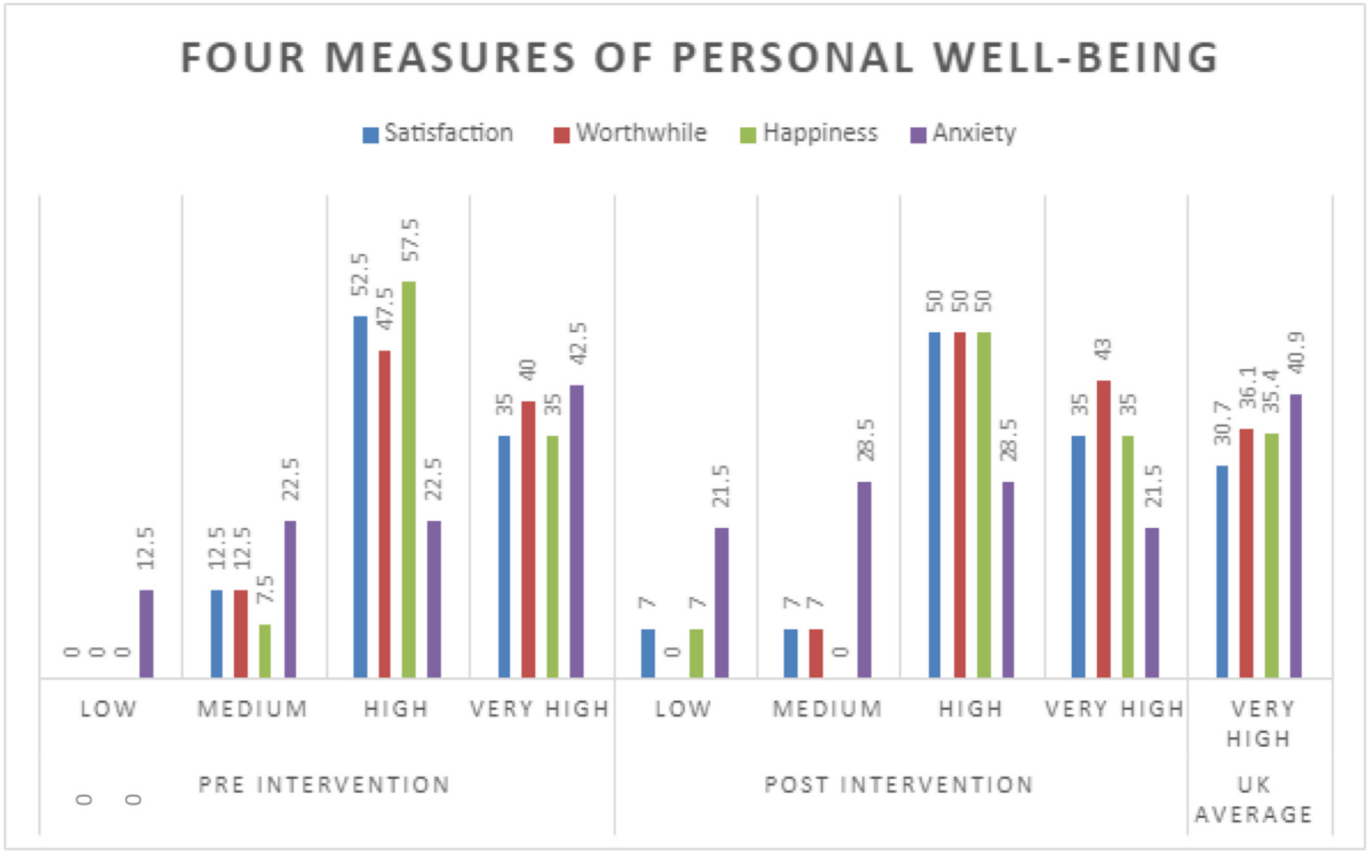


Figure 4. The pre and post intervention measure for well-being compared against the National average in 2019.

Table 2
Average well-being scores for participants compared to National and regional scores.

Scale	Participant average score	The score falls between the top 61% and 80% of responses
Overall, how anxious did you feel yesterday? [0 = 'not at all anxious'; 10 = 'completely anxious']	3.7	Below Average
Overall, how happy did you feel yesterday? [0 = 'not at all happy'; 10 = 'completely happy']	8.4	Good
Overall, how satisfied are you with your life nowadays? [0 = is 'not at all satisfied'; 10 = 'completely satisfied']	8.2	Good
Overall, to what extent do you feel that things in your life are worthwhile? [0 = 'not at all worthwhile'; 10 = 'completely worthwhile']	8.5	Good

the post intervention survey (n = 14) was 86.91 (SD = 4.95), whereas the mean sum score in group 2 (n = 40) was 87.51 (SD = 5.54). Table 3 illustrates the difference between the 12 self-efficacy items.

Silverman et al.,[21] (2005) suggest that clinical communication is a series of modifiable skills that can be developed to become a better communicator, in addition to being a personal trait. Six out of 12 of these communication skills have been improved because of the intervention. Effective clinical communication that improves accuracy and efficiency has been shown to have a positive impact on several aspects of patient outcomes, such as patient satisfaction, adherence, symptom relief, and physiological outcome.[21]

Self-efficacy is a widely used construct for self-assessment of the outcome of communication skills training.[22–24] According to Bandura,[28] perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Bandura claims that people's beliefs about their efficacy can be developed by four main sources of influence: Mastery of experience social models, social persuasion, and reducing people's stress reactions. Bandura[28] (p2) adds that 'The most effective way of creating a strong sense of efficacy is through mastery experiences'. To do this, individuals must experience success, which builds robust belief and failure which requires experiences in overcoming obstacles. Decreasing

Table 3
Descriptive statistics of the 12 self-efficacy items (range, 1–100).

Self-Efficacy Item	Pre intervention		Post Intervention		Difference
	Mean	Standard deviation	Mean	Standard deviation	
Identify the issues the patient wishes to address during the conversation	82.90	19.37	85.64	8.03	2.74
Make and agenda/plan for the conversations with the patient.	77.92	22.61	83.5	14.48	5.58
Urge the patient to expand on his/her problems/worries.	72.51	27.39	74.57	26.20	2.06
Listen attentively to the patient.	89.95	20.51	92.14	8.90	2.19
Encourage the patient to express thoughts and feelings.	91.72	13.91	85.86	13.47	−5.86
Structure the conversation with the patient.	87.05	15.84	83.86	12.35	−3.19
Demonstrate appropriate non-verbal behaviour (eye contact, facial expressions, placement, posture and voicing)?	87.92	22.10	90.43	9.43	2.51
Show empathy (acknowledgement of the patient's views and feelings)	95.18	7.81	91.84	7.59	−3.34
Clarify what the patient knows in order to communicate the right amount of information	92.54	12.37	87.43	10.23	−5.11
Check the patient's understanding of the information given.	92.67	12.43	89.28	11.21	−3.39
Make a plan based on shared decisions between you and the patient	88.41	15.14	89.29	10.57	0.88
Close the conversation by assuring that the patient's questions have been answered.	91.38	13.36	89	10.28	−2.38

confidence in some measures illustrated in Table 3 may be an opportunity to practice overcoming barriers and therefore build mastery.

Participants were asked to consider the impact of the programme on them in their new roles. Three emerging themes from open questions arose. Firstly, the level of awareness of the challenges ahead and language differences; for example '*workplace integration training programme helped me to find my job easier by knowing more about British culture and how to have a good relationship with people*' (participant comment) and '*It has really helped especially my level of awareness of language differences then, of challenges ahead as regards building and maintaining positive relationship/responsibilities*.' (participant comment). Furthermore, a participant commented that '*the programme helped me to know that I should pay more attention and listen attentively in order to get along with British accent*' (participant comment).

Secondly there were comments on language and challenges relating to integration into their departments, for example 'helped to make me more comfortable in communication with patients and colleagues hence improved my effectiveness in my workplace' (participant comment) and 'It clarified for me the picture of working in the UK'.

Thirdly, some comments were made on dealing practically with professional challenges relating to language and challenges within the workplace for example '*The programme prepared me to know what to expect such as different people's behaviour in the workplace and how to handle it*' (participant comment) and '*I learned some ideas through this training programme particularly in language and provocation within my workplace*' (participant comment).

Finally, there were some general comments about the topics and their effect, for example, '*It has made me more receptive of the difference in the language and given me an understanding of some phrases that are commonly used thereby improving my communication skills with especially patients*' (participant comment).

Discussion

Helping working individuals to feel happy, competent, and satisfied in their roles presents a valuable opportunity to benefit societies and is an outcome of focusing on well-being at work. New Economics Foundation (NEF)[17] (p.6) suggested that '*Improving well-being at work implies a more rounded approach, which focuses on helping employees to:*

- strengthen their personal resources
- flourish and take pride in their roles within the organisational system
- function to the best of their abilities, both as individuals and in collaboration with their colleagues
- have a positive overall experience of work.'

For new professionals joining the NHS as radiographers, having completed their training and gained experience in countries other than the UK, a key aspect of this is to allay fears, apprehensions and anxiety by ensuring effective workplace integration. As suggested in the research by Axobe et al.,[20] focusing on language skills and communication has been shown to have positive impacts on several aspects of patient outcome and improvements in self efficacy of the work force. This aligns to the NEF[16] focus on functioning at work, which includes the extent to which workers feel they can express themselves, use their strengths, and have a sense of control over their work. Xie and Johns[25] found that individuals who perceive their jobs to match their skills tend to report lower levels of stress. By reducing anxiety and raising awareness of challenges imposed by language and communication barriers, we can create positive interactions with their surroundings and improve functioning and feelings of control. Casady and Dowd[26] reported on a successful initiative to support the retention of radiologists, highlighting an operational objective of improving communication inter- and intra-departmentally, for new recruits into the profession, particularly those from other countries. This approach can only be successful if language and communication barriers are addressed and team leaders and management teams have appreciation of the challenges facing the new recruits, combined with an awareness of how to help. This awareness to help can be usefully put into practice through the induction and orientation stages. Verlander and Evans[27] suggested that successful 'retention on-boarding' should enable a sense of attachment to the workplace, a sense of familiarity with the new environment, comfort with co-workers, pride in the job and satisfaction. Their twelve components of retention onboarding conversations at induction and orientation stages are crucial to enabling new employees to form a bond and sense of belonging. For international recruits, the focus on language and communication barriers, challenges and solutions should be at the heart of this process.

The workplace integration programme embedded many of Verlander and Evans'[27] suggestions for induction and orientation, namely establishing procedures and policies, through stories, examples, and anecdotes, exploring the strengths and continuing changes and challenges relating to integration in the workplace. The programme's three-phase strategy that focused on a targeted 'before, during and after' has seen an impact on a number of self-efficacy measures, a raised awareness of challenges and personal awareness of implications for practice. It has acted to support a smooth transition through onboarding and beyond to both new recruits and their residing departments.

'*If all international Radiographers can be introduced to this course upon entry into the United Kingdom or once they've been employed, it would help integration into the system better and ease pressure*.' (participant comment).

Limitations

Principally, the sample size was limited to the number of radiographers recruited, and this in turn had an impact on the post intervention return rate. Basing the evaluation on larger sample size could have generated more reliable results. In addition, the scope of the evaluation was limited to the experience of the recruited radiographers. It would have been interesting to gain the perception of departments that the radiographers were employed in which would have added depth to the discussion and potentially influenced the interpretation of findings.

Conclusion

Ethical international recruitment has supported successfully the SW UK region's workforce strategy and provided much needed resources on the ground post Covid-19. The project was driven by the regional imaging leadership team, who worked with a wider group, including radiology service holders and higher education providers, to ensure successful implementation. The principal recommendations gained from the development and implementation of this Workplace Integration Support Package are as follows:

1. Ensuring digital accessibility for new recruits as part of the onboarding process is essential.
2. Consider the timing of any online, connected tutor support sessions to facilitate positive engagement.
3. Provision of long-term pastoral support.
4. Further evaluation is recommended to investigate and assess the effectiveness and relevance of the content.

IRB Approval and the role of the funding source

No formal IRB approval was required for this project, rather University Ethical approval was gained in accordance with the Code of Ethics of the World Medical Association.

The project was funded by Health Education England. The funding source had no involvement in study design, in the collection, analysis and interpretation of data nor in the writing of the report nor and in the decision to submit the article for publication.

Conflict of interest statement

The authors declare that there is no conflict of interest.

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