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Title Page

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Running head: Clinical Leadership in Practice

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Full title: Perceived Importance and Performance of Clinical Leadership in Practice: a cross-sectional study of Nurses and Midwives of all grades

Abstract

Aim. To explore the differences in perceived importance and actual performance of clinical leadership for all grades of nurses and midwives engaged in clinical practice.

Background. Clinical leadership is central to the provision of person-centred care. However, little is known about how nurses and midwives perceive this in practice.

Methods. Data were collected on a sample of nurses and midwives in the Republic of Ireland, using a cross-sectional study design (n=324). The Clinical Leadership Needs Analysis Instrument (CLeeNA) was used to measure perceived importance and performance of clinical leadership in practice. Grades of nurses/midwives included; staff, manager, advanced practitioner and senior manager.

Results. Senior managers were more likely to report significantly higher scores than staff grades for perceived importance of Technology & Care Initiatives ($p<0.01$) and Financial & Service Management ($p=0.02$). Performance of Staff & Care Delivery was significantly higher for senior managers than staff grades [$F(5,309)=6.06$ $p<0.01$].

Conclusion. There was a mismatch between the perceived importance and actual performance of clinical leadership in practice between different grades of staff.

Implications for Nursing Management. Leadership training for all grades and mentoring of staff grades can promote the building of confidence and empower staff in leading clinical practice.

Keywords: nurses, midwives, importance of clinical leadership, performance of clinical leadership, CLeeNA

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1 | BACKGROUND

Leadership is defined in a number of ways; however, there is little agreement on its essential characteristics (Barr & Dowding, 2012). It is associated with organisational, patient and staff outcomes (West et al., 2015). Good leadership provides a plan of action, is dynamic, gives strategic purpose and direction for the completion of a set goal (Buckner et al., 2014). Leaders are important role models or 'exemplars' for their staff, setting a culture of support and learning.

Clinical leadership has evolved as an important aspect of work for nurses and midwives due to a complex, rapidly changing healthcare environment. Although literature on clinical leadership development highlights this evolution in the nurse/midwives' role and the important contributions these professionals make to healthcare (Adams, Djukic, Gregas, & Fryer, 2018; Buckner et al., 2014; Fealy et al., 2012), there is a lack of literature around how important this is to nurses and midwives and how they perceive it being performed in their work environment. A focus on the benefits of good clinical leadership in relation to patient outcomes is apparent in the literature (Boamah, Spence Laschinger, Wong, & Clarke, 2018; Wong, Cummings, & Ducharme, 2013). Nevertheless, positive outcomes are difficult to achieve if staff feel unable to lead in the clinical environment due to a poor sense of autonomy or organisational culture (Casida, Crane, Walker, & Wargo, 2012; Chavez & Yoder, 2015; Connolly, Jacobs, & Scott, 2018).

Clinical leadership allows for the facilitation of evidence based practice thereby improving the quality of patient care but, as a concept, clinical leadership is without a standard definition and consequently its meaning is unclear (Mannix, Wilkes, & Daly, 2013). Chavez & Yoder (2015) recognised this and conducted a concept analysis to identify attributes, antecedents and consequences of staff nurse clinical leadership. These researchers defined staff nurse clinical leaders as those who achieved shared and individual clinical objectives and exerted influence over others with the goal of providing safe, quality care. Despite the broad consensus on the importance of clinical leadership, its enactment is not always as anticipated, a problem not unique to nurses and midwives but found for our medical colleagues also (Moscrop, 2012).

Writers describe some of the hallmarks of a nurse and midwife leader as being visible, engaging and empowering (Divall, 2015; O'Connor & Carlson, 2016; Shariff, 2015) with professional knowledge seen as fundamental to the ability to lead (Larsson & Sahlsten, 2016) reinforcing Drennan's (2012) findings that nurses with master's level education have increased ability to initiate change in practice. Nevertheless, Bulmer (2013) found staff nurses at an early stage in their career to have higher leadership ambition in comparison to those with more experience. This may imply that, longevity in a staff grade position reduces the aspiration to lead clinically despite valuable clinical experience (Adams et al., 2018). This is potentially due to barriers to leadership such as poor resources applied to leadership training (Denker, Sherman, Hutton-Woodland, Brunell, & Medina, 2015; Divall, 2015).

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There is a dearth of literature in relation to the perception of the importance and performance of clinical leadership in practice for all grades of nurses and midwives. Staff grades are leaders at the bedside where they use their clinical knowledge to deliver high standards of care. This is described as an informal leadership role (Larsson & Sahlsten, 2016). Previously, researchers found that staff nurse grades expressed a need to advance skills in clinical leadership and were in key positions to positively influence patient care (Casey, McNamara, Fealy, & Geraghty, 2011; Chavez & Yoder, 2015; Stanley & Stanley, 2018). Staff grades view recognised leaders (managers) as 'gatekeepers' for the enablement of initiatives (Harvey et al., 2019) however clinical patient issues that are important to staff may not be embraced by managers and hence not performed. This mismatch can lead to staff disengagement where the performance of clinical leadership is seen as an additional role (Daly, Jackson, Mannix, Davidson, & Hutchinson, 2014).

For nurses at senior management level, needs in terms of operational management issues score highly (Kantanen, Kaunonen, Helminen, & Suominen, 2017). As priorities appear to vary, it is essential to understand what is important for each grade of staff and determine the perception of clinical leadership performance in practice in order to highlight areas to be addressed.

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2 | AIM

The aim of this study was twofold. Firstly, we aimed to establish what the perceived importance and performance of clinical leadership in practice was for nurses and midwives. Secondly, we investigated if there was a difference between the various grades of nurses and midwives (staff, manager, advanced practitioner and senior manager) in relation to their perception of importance of clinical leadership and its performance in practice.

3 | MATERIAL AND METHODS

We conducted a cross-sectional study on a national sample of nurses and midwives based in the Republic of Ireland from April to June 2017. We employed two methods of data collection, online questionnaires and postal questionnaires. In the first instance, the Health Service Executive (HSE) sent an e-mail, on behalf of the researchers, to senior managers of nursing and midwifery containing a Uniform Resource Locator (URL) to an online questionnaire (n=236). A paper version of the online questionnaire was then posted to a randomly generated sample of nurses and midwives who were on the Register of Nurses and Midwives held by the Nursing and Midwifery Board of Ireland (NMBI) (n=2200). Details of sample and data collection have been published previously (Mc Carthy et al., 2018). The calculation of a response rate from the online questionnaire was not possible due to uncertainty about the exact number of recipients. This occurred in cases where the original recipients of the e-mail, circulated the mail to their staff. The postal questionnaire response rate was 11% (n=227). Some uncompleted postal questionnaires were returned with no explanation (n=13), marked as not known at the recipient address (n=10) or intended receiver was retired or working abroad (n=18). The data from both the online and postal questionnaire were used for the following analysis, giving a sample of n=324. There was, however, some missing data on three of the returned questionnaires resulting in 321 valid responses included in the analysis.

3.1 | Measures

Data from nurses and midwives on all five divisions (Children's, General, Intellectual Disability, Psychiatric, and Midwifery) of the Register of Nurses and Midwives were obtained. This included data on age, gender, qualification and educational attainment; data on area of work and grade were also collected.

3.1.2 | Leadership Importance and Performance

CLeeNA, a newly developed instrument (Mc Carthy et al., 2018) was used to measure the importance of leadership in clinical practice. In addition to measuring importance, we also asked respondents to

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report on the performance of leadership in their clinical area. CLeeNA consisted of 56 items categorised into seven dimensions: Self and Team Development (10 items); Staff and Care Delivery (6 items); Technology and Care Initiatives (6 items); Financial and Service Management (6 items); Leadership and Clinical Practice (11 items); Patient Safety and Risk Management (9 items); and Standards of Care (8 items) (Mc Carthy et al., 2018). Leadership needs (importance and performance) were scored on a 7-point adjectival scale with 1 = not important or poorly performed to 7 = highly important or highly performed. Therefore, a high score indicated high importance and/or high performance in the individual dimensions. An example of a question to ascertain the importance of clinical leadership in the Self and Team development dimension was: 'Rate the importance to serve as a change leader'. Respondents were then asked to 'Rate the extent to which serving as a change leader is performed in practice'. Items from the seven individual dimensions were scored to produce a total dimension score. A linear transformation was conducted to obtain a theoretical range of 0-100 for each of the 7 dimensions. Cronbach's alphas for the importance dimensions ranged from 0.86-0.89 (Mc Carthy et al., 2018) and the performance dimension 0.89-0.93.

3.2 | Ethical considerations

The Clinical Research Ethics Committee, which was linked to the researchers' University, granted ethical approval for this study.

3.3 | Data Analysis

Data analysis was performed using IBM SPSS Statistics Version 24 (IBM, Armonk, NY, USA). Descriptive analysis was conducted on the demographic characteristics of the sample and the perceived importance and performance of clinical leadership. Crosstabulations and independent sample t-tests were performed to establish any significant differences between the online and postal respondents.

Several simple linear regression models were built to investigate the relationship between the grade of nurse and midwife respondents and clinical leadership importance and performance. Furthermore, a series of separate multiple linear regression models were built investigating this relationship while adjusting for age and method of data collection (online or postal).

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4 | Results

Table 1 displays the demographic details of the sample. The mean age of our respondents was 46.5(SD 10.03). Online respondents were significantly older than the postal respondents with no gender difference. A significantly higher proportion of staff responded to the postal questionnaire but similar numbers of senior managers responded to the online and postal questionnaire. A higher proportion of the online respondents had Bachelor's Degree or above qualification (61% vs 55%) and a significantly higher proportion had leadership training completed. Community nurses or midwives accounted for the highest proportion of those completing the online questionnaire whereas respondents on the General Nursing division of the Register accounted for the highest proportion of completed postal questionnaires.

<<Insert Table 1 here>>

Table 2 shows the mean and standard deviation for the seven importance and performance dimensions of CLeeNA. In general, the mean scores for perceived importance dimensions were high and performance in practice dimensions, low. Staff & Care Delivery and Standards of Care scored highest for perceived importance (mean >78). However, Staff & Care Delivery also scored as one of the lowest for performance of clinical leadership (mean=38.81) with Technology & Care Initiatives the lowest scoring.

<<Insert Table 2 here>>

Table 3 shows the mean and standard deviation, univariate and multiple linear regression results for grade of nurses and midwives across the seven dimensions of CLeeNA in relation to importance and performance of leadership in practice. Dummy variables were used for the different grades of nurses and midwives with staff grades used as the reference. Adjustment was made for age and method of questionnaire distribution (online or postal). There were statistically significant differences found between the senior managers and staff grades for importance of Staff & Care Delivery, Technology & Care Initiatives, Financial & Service Management and Patient Safety & Risk Management univariately. On average, the scores for senior managers on these dimensions were two points higher than for staff grades. When the models were adjusted for age and method of data collection, only Technology & Care Initiatives and Financial & Service Management had overall significant models [$F(5,309)=3.87$, $p<0.01$], [$F(5,309)=2.81$, $p=0.02$] respectively. No significant difference was found for managers or advanced practitioners.

Univariately, two models were insignificant overall (Technology & Care Initiatives and Financial & Service Management) in relation to performance of leadership in practice. Nurse/midwife managers, advanced nurse/midwife practitioners and senior managers were all independently significantly different to staff grades when reporting performance of leadership in practice for Staff & Care

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Delivery however only senior managers were significantly different to staff in the adjusted model (B=13.55, $p<0.01$). In general, the largest differences were seen between senior managers and staff grades and advanced practitioners and staff grades for Self & Team Development, Standards of Care, Leadership & Clinical Practice and Patient Safety & Risk Management. Staff & Care Delivery was notably higher for senior managers in relation to staff grades with an overall statistically significant model [$F(5,309)=6.06$, $p<0.01$].

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5 | DISCUSSION

This paper investigated the perceived importance and actual performance of clinical leadership in the healthcare environment and how this differed across the grades of nurses and midwives. This work adds to our knowledge on leadership by identifying clear discrepancies between staff grades and managers in their reports of clinical leadership performance in practice. While international leadership literature has concentrated on leadership styles, patient outcomes and barriers to leadership, with work predominantly focused on recognised leaders, our work shows a need to coordinate clinical leadership, taking a concerted approach to ensure clarity and teamwork.

Respondents rated all CLeeNA dimensions highly for importance with the Staff and Care Delivery dimension being rated the highest. However, this was also perceived as one of the poorest performing dimensions. This dimension included items on staff retention; staff satisfaction; representation of patient care issues and education needs of nurse/midwife staff. The poor performance in practice rating of this dimension reinforces the necessity of further investigation into the needs of nurses and midwives in relation to their experiences at work, their support and further educational needs and patient care. Recent findings from Drennan et al. (2017) indicated that national implementation of a workforce planning system was required to capture information such as patient acuity and skill mix to allow nursing resources to be determined based on patient need. This should improve the actual performance of Staff and Care Delivery issues in practice and help towards improving the performance scores on other clinical leadership dimensions such as, Standard of Care and Patient Safety and Risk Management.

Senior managers perceived importance of clinical leadership for Staff and Care Delivery and Technology and Care Initiatives more highly than all other grades but significantly so for staff when taking age and method of distribution into account. For Staff and Care Delivery, our findings indicate staff grades do not put as much importance on this as their senior managers, nor do they perceive this being performed highly in practice. This is somewhat at odds with previous findings (Larsson & Sahlsten, 2016; Stanley & Stanley, 2018) and may be due to the 'invisible' nature of this type of work known as 'informal leadership' (Larsson & Sahlsten, 2016). Patient safety is an important aspect of clinical leadership. Again, this was rated highly important by all grades, but advanced practitioners and senior managers perceived this as being highly performed in practice, significantly more than staff grades. This perception by staff grades may be due to the lack of appreciation they have for the importance of their role and their ability to influence others (Herman, Gish, & Rosenblum, 2015); it has been argued that this can be enhanced through leadership training (Paterson, Henderson, & Burmeister, 2015). Although 54% of our sample had completed leadership training, only 30% of the staff grade respondents compared to 67% managers, 59% advanced practitioners and 73% of senior managers had engaged in this training (data not shown). Longevity in the role of a nurse or midwife can allow an individual to draw from a pool of knowledge to use in practice (Adams et al., 2018) but

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it may also result in reduced aspirations to advance learning and lead clinically (Bulmer, 2013). For example, 30% of our sample reported their highest qualification as certificate or diploma, with those holding certificate level qualifications mainly in the 50+ age group. In the Republic of Ireland, opportunities for 'top-up' qualifications have been in place for almost two decades. However, barriers such as financial support for further education were not determined in our work, so we are unable to explore this further.

Leadership training, when accessible to all grades of nurses and midwives, can allow personal and professional development that will ultimately influence patient care (Paterson et al., 2015; Titzer, Shirey, & Hauck, 2017). The perception of Leadership and Clinical Practice being performed was significantly different between staff grades and advanced practitioners and between staff grades and senior managers, but not between staff grades and managers. This dimension included items such as gathering feedback from patients and colleagues to develop service plans and building collaborative teams. These issues may be invisible to the staff grade and managers at the frontline because results are not immediate (Dyess, Sherman, Pratt, & Chiang-Hanisko, 2016).

Development of roles and giving responsibilities to staff grades to increase their knowledge in a specific area of care relevant to their practice, can strengthen their authority and autonomy as an important member of the healthcare team (Larsson & Sahlsten, 2016). Senior managers need to be visible to staff to encourage them to engage with innovation and lead change for patient care (Denker et al., 2015; Divall, 2015; Dyess et al., 2016; O'Connor & Carlson, 2016; Shariff, 2015). This may alleviate any barriers there are for staff grades, who are critical agents of change and aware of clinical need (Laschinger & Smith, 2013; Lievens & Vlerick, 2014; Mannix et al., 2013). With patient-centred care and self-management being promoted and encouraged in contemporary healthcare environments, the need to be visible, flexible, engaging and empowering to patients may place greater focus on the bedside nurse/midwife's role in leading care (Duprez, Beeckman, Verhaeghe, & Van Hecke, 2018).

It is understandable that senior managers are more involved in financial and service management and thus see the importance and performance of this in practice. However, Technology and Care Initiatives should be important to all grades. Our findings indicate otherwise. We found Technology and Care Initiatives were highly important to senior managers; however, there was no significant difference between the grades in relation to performance of this in practice. Although it is plausible that technological advances are linked to financial matters and thereby not under the control of all grades, care initiatives can be led at any level unless workplace regulations pose a barrier to this (El Amouri & O'Neill, 2014) and staff grades are not prepared for such roles (Denker et al., 2015).

5.1 | Implications for nursing and midwifery management

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Managers need to draw on the valuable reservoir of knowledge held by staff allowing a culture of inclusivity and staff engagement. Nurse/midwife managers need to be visible and available to staff at all levels encouraging and promoting informal and formal flow of information. Informal communication should be facilitated by the daily presence of nurse/midwife managers in the clinical setting, meeting with staff and patients. The formal flow of information should occur in regular team meetings. Managers can address discrepancies between staff's perception of importance and performance of clinical leadership issues by giving leadership responsibilities on care issues to all member of the team, supporting their further education in this area and facilitating the sharing of their learning. This will increase the visibility of clinical leadership at staff levels, allow for mentorship and develop skills and confidence for staff in the performance of clinical leadership.

Managers should support an on-site approach to leadership training for staff where a bottom up approach to change is nurtured and welcomed (Al-Dossary, Kitsantas, & Maddox, 2016), allowing organisational development to occur (West et al., 2015).

5.2 | Strengths and limitations of the study

Causation cannot be determined owing to the cross-sectional design of the study. Response bias to the self-reported questionnaires may have occurred with respondents being influenced by time and place of completion. For example, if a respondent completed the questionnaire after a busy shift, they may have overestimated importance but underestimated performance of clinical leadership in practice. Observational research in clinical areas could have provided more objective findings however this was not possible due to time, money and ethical considerations. We have however, conducted focus group interviews with different grades of staff. These data are currently being analysed.

CLeeNA is a new instrument developed to measure the importance and performance of clinical leadership in practice. The psychometric properties of CLeeNA are acceptable in relation to the importance dimensions of the instrument (Mc Carthy et al., 2018), however, further testing of reliability and validity as well as confirmatory factor analysis is warranted with larger sample sizes. No validation tests have been conducted on the performance dimensions of the instrument but reliability tests indicated the presence of redundant items with Cronbach's alphas greater than 0.90.

We used online and postal methods to distribute our questionnaire. Although different methods of instrument distribution have been used previously, we should acknowledge that this may result in potential sampling bias, specifically with online surveys (Smith, King, Butow, & Olver, 2013; Ward, Clark, Zabriskie, & Morris, 2014). The online and postal responses were significantly different in two importance dimensions (Technology and Care Initiative; Financial and Service Management) and two performance dimensions (Staff and Care Delivery; Leadership and Clinical Practice). In all four occurrences, the dimensions scored higher in the online responses, which were predominantly completed by manager level and above (90%). Adjusting for the mode of distribution in the

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regression models allowed for any confounding to be addressed because of this. The low response rates for the postal questionnaire are reflective of issues with data collection in healthcare (Cook, Dickinson, & Eccles, 2009). Data collection for this study took place at a time when there were several staffing/recruitment/retention issues in the Irish healthcare system. Additionally, some nurses/midwives may not have felt a survey on clinical leadership was relevant to them working in a frontline role which is in line with previous findings (The Registered Nurses Association of Ontario (RNAO), 2013).

5.3 | Conclusion

The hallmarks of a clinical leader were dependent, to some extent, on the grade of the nurse or midwife. This reflects the current view of clinical leaders as those who implement change in a management position. The significance of the bedside nurse/midwife in the 'informal leadership' role needs to be espoused. Clinical leadership refers to person-centred care; with this in mind, the staff and manager grade are of fundamental importance in leading care in the clinical area. Developing skills and confidence in staff at all levels, but particularly at staff level is important if we are to achieve a healthcare environment where clinical expertise guides decision making, and change is instigated through teamwork and effective communication for the benefit of the patient/service user.

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Table 1 Demographic details of the respondents n=321[†]

	Total n (%)	Online (n=97)	Postal (n=224)	p[‡]
Age Mean (SD)		49.12 (8.03)	45.40 (10.61)	<0.01
Gender				
Female	291(91)	84(87)	207(92)	0.12
Grade (n=313)				<0.01
Senior manager	61(20)	35(38)	26(12)	
Advanced Practitioner	32(10)	18(20)	14(6)	
Manager	102(32)	29(31)	73(33)	
Staff	118(38)	10(11)	108(49)	
Area of Work (n=318)				<0.01
Older Adult	16(5)	8(8)	8(4)	
Community	40(12)	22(23)	18(8)	
Children	46(15)	16(17)	30(14)	
General	72(23)	18(19)	54(24)	
Intellectual Disability	54(17)	9(9)	45(20)	
Mental Health	39(12)	13(14)	26(12)	
Midwifery	42(13)	8(8)	34(15)	
Primary Care	3(1)	0	3(1)	
Other (academic, cross services)	6(2)	2(2)	4(2)	
Qualification (n=318)				0.03
Certificate	25(8)	6(6)	19(9)	
Diploma	43(13)	8(8)	35(16)	
Higher/Postgraduate Diploma	70(22)	24(25)	46(20)	
Bachelor's Degree	103(32)	25(26)	78(35)	
Master's Degree	74(23)	33(35)	41(18)	
PhD	1(1)	0	1(1)	
Other	2(1)	0	2(1)	
Completed Leadership Training (n=312)				<0.01
Yes	169(54)	68(70)	101(47)	

[†] unless otherwise stated

[‡]p=difference between characteristics of the sample by the two data collection routes (online and postal)

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Table 2: Mean (M) and Standard Deviation (SD) of importance and performance for Clinical Leadership Needs Dimensions (*n*=321)

	Importance*	Performance*
	M(SD)	M(SD)
Staff & Care Delivery	81.68(7.83)	38.81(21.29)
Technology & Care Initiatives	72.51(13.31)	38.39(21.29)
Self & Team Development	78.50(10.05)	50.26(17.93)
Standards of Care	81.20(7.00)	54.62(17.29)
Financial & Service Management	71.88(14.58)	38.93(20.63)
Leadership & Clinical Practice	77.45(10.05)	46.43(17.47)
Patient Safety & Risk Management	80.23(7.08)	53.96(18.47)

*Theoretical range 0-100

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Table 3: Univariate and multiple linear regression analysis showing associations between Importance and Performance of Leadership in Practice and Grade of Nurse or Midwife, n=321

	Importance of Leadership in Practice					Performance of Leadership in Practice				
		Unadjusted		Adjusted†			Unadjusted		Adjusted†	
	M(SD)	B(95% CI)	Overall *p*	B(95% CI)	Overall *p*	M(SD)	B(95% CI)	Overall *p*	B(95% CI)	Overall *p*
Staff & Care Delivery			0.14		0.33			**<0.01**		**<0.01**
Staff (Ref)	80.8(8.3)	-		-		32.5(19.9)	-		-	
Managers	81.2(9.6)	0.44 (-1.65, 2.53)		0.68(-1.57, 2.93)		38.6(20.2)	**6.02 (0.70, 11.34)**		4.46(-1.22, 10.14)	
Advanced	83.0(4.6)	2.27 (-0.82, 5.35)		2.64(-0.70, 5.98)		42.9(19.2)	**10.39 (2.54, 18.23)**		7.44(-0.99, 15.56)	
Senior Managers	83.3(4.1)	**2.56(0.13, 5.00)**		**2.96(0.16, 5.76)**		49.5(20.3)	**16.99 (10.78, 23.19)**		**13.55(6.48, 20.61)**	
Technology & Care Initiatives			**<0.01**		**<0.01**			0.33		0.29
Staff (Ref)	69.4(15.0)	-		-		37.4(21.1)	-		-	
Managers	72.8(13.8)	3.35(-0.12, 6.82)		2.34(-1.37, 6.05)		36.4(21.7)	-0.99(-6.70, 4.71)		-1.31(-7.42, 4.79)	
Advanced	73.9(9.0)	4.47(-0.64, 9.59)		3.41(-2.08, 8.91)		43.7(21.9)	6.27(-2.14, 14.68)		6.98(-2.08, 16.03)	
Senior Managers	77.5(8.6)	**8.07(4.02, 12.11)**		**6.62(2.01, 11.23)**		40.1(21.5)	2.72(-3.94, 9.37)		3.16(-4.43, 10.76)	
Self & Team Development			0.55		0.76			**0.01**		0.07
Staff (Ref)	77.5(11.1)	-		-		47.4(17.4)	-		-	
Managers	78.7(9.4)	1.21(-1.49, 3.90)		0.98(-1.92, 3.89)		49.2(18.8)	1.79(-2.94, 6.52)		1.71(-3.35, 6.77)	
Advanced	78.7(6.5)	1.20(-2.78, 5.18)		1.05(-3.26, 5.36)		56.2(14.8)	**8.80(1.85, 15.79)**		**8.77(1.26, 16.27)**	
Senior Managers	79.7(11.0)	2.24(-0.91, 5.38)		1.92(-1.70, 5.53)		54.9(18.1)	**7.49(1.97, 13.00)**		**7.35(1.06, 13.65)**	

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Standards of Care			0.54		0.48			**0.01**		**0.03**
Staff (Ref)	80.9(7.1)	-		-		52.1(17.2)	-		-	
Managers	81.1(6.6)	0.15(-1.67, 1.96)		0.62(-1.33, 2.56)		52.9(18.3)	0.85(-3.71, 5.41)		1.80(-3.10, 6.70)	
Advanced	80.6(7.8)	-0.38(-3.06, 2.29)		0.26(-2.63, 3.14)		58.6(13.3)	6.59(-0.13, 13.31)		**8.26(1.00, 15.52)**	
Senior Managers	82.3(6.0)	1.39(-0.73, 3.50)		2.23(-0.19, 4.65)		59.9(16.7)	**7.87(2.55, 13.19)**		**9.56(3.47, 15.65)**	
Financial & Service Management			**0.048**		**0.02**			0.08		**0.02**
Staff (Ref)	71.2(13.7)	-		-		39.2(20.5)	-		-	
Managers	71.3(15.9)	0.10(-3.67, 3.87)		-0.89(-4.89, 3.12)		35.1(20.8)	-4.08(-9.56, 1.41)		-3.46(-9.32, 2.40)	
Advanced	69.0(13.2)	-2.14(-7.69, 3.42)		-4.67(-10.61, 1.27)		41.4(17.7)	2.18(-5.90, 10.27)		0.55(-8.14, 9.24)	
Senior Managers	76.4(12.2)	**5.24(0.84, 9.63)**		3.43(-1.55, 8.42)		43.4(21.9)	4.26(-2.14, 10.66)		3.81(-3.48, 11.10)	
Leadership & Clinical Practice			0.65		0.86			**<0.01**		**0.01**
Staff (Ref)	76.8(10.5)	-		-		42.9(16.4)	-		-	
Managers	77.4(12.1)	0.54(-2.16, 3.25)		0.63(-2.28, 3.54)		44.9(18.7)	2.00(-2.57, 6.56)		0.78(-4.11, 5.66)	
Advanced	77.1(7.8)	0.27(-3.72, 4.25)		0.93(-3.38, 5.24)		51.9(14.5)	**9.01(2.28, 15.74)**		**7.99(0.75, 15.23)**	
Senior Managers	78.9(6.1)	2.02(-1.14, 5.17)		2.21(-1.41, 5.83)		52.7(17.2)	**9.86(4.53, 15.18)**		**7.85(1.77, 13.93)**	
Patient Safety & Risk Management			0.10		0.11			**0.01**		**0.01**
Staff (Ref)	79.4(7.6)	-		-		50.1(17.8)	-		-	
Managers	80.9(6.4)	1.55(-0.29, 3.40)		1.33(-0.65, 3.30)		54.5(19.9)	4.42(-0.45, 9.27)		3.59(-1.61, 8.78)	
Advanced	79.5(7.9)	0.11(-2.60, 2.83)		0.09(-2.83, 3.02)		57.9(16.2)	**7.82(0.66, 14.98)**		**8.08(0.38, 15.78)**	
Senior Managers	81.8(5.7)	**2.43(0.29, 4.58)**		2.30(-0.16, 4.75)		59.4(17.3)	**9.37(3.70, 15.03)**		**8.76(2.30, 15.22)**	

†=Adjusted for age and method (online or postal)

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