

Mapping trends in the concept of nurse rounding: a bibliometric analysis and research agenda

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Abstract

Aims: Examine the growth and diffusion of research on the concept of nurse rounding and provide definitional clarity on forms of nurse rounding.

Methods: Bibliometric and content analysis of primary research on nurse rounding were employed to map development of the field. Manuscripts were identified from a keyword search of MEDLINE, CINAHL and PsycINFO databases for the period 2000 to 2015.

Titles, country of origin and year of publication along with details on the characteristics and sample of each study were coded on a database. Content analyses was performed on the coded data to derive a taxonomic understanding and identify publication trends.

Results: Thirty eight primary research studies were identified. Overall there has been an increase in the number and diversity of studies on nursing rounding. A typology of four variants of nurse rounding was devised to enhance clarity and enable comparative analysis.

Conclusion: There has been continued interest in nurse rounding and its potential benefits. However, poor definitional clarity is evident in this body of research, with various label used interchangeably in studies reporting similar rounding designs. The field would benefit from improved conceptual clarity and investigation into forms of nurse rounding that remain largely unexamined.

Keywords: rounding, intentional rounding, nursing workplace, bibliometric analysis,

Summary statement

What is already known about this topic?

- There is increasing interest in nurse rounding as a means of enhancing patient safety and care quality.

What this paper adds:

- Provides clarity on four primary forms of nurse rounding evident in the nursing literature
- Identifies rounding as a strategy that can optimise skilled nursing surveillance, and/or act as a vehicle for collaboration and sharing of nursing expertise.

The implications of this paper:

- The frequency, intent and characteristics of nurse rounding are highly variable
- The taxonomy proposed in this paper provides a useful framework for greater clarity and consistency in future studies of nurse rounding

Introduction

Attempts to systematically organise and improve the quality and safety of nursing care are not new. Considerable attention has been given to establishing and evaluating models and approaches to the delivery of nursing care. Nurse rounding is one strategy employed to improve care quality through structuring the delivery of nursing care. Ward rounds are an established process for clinical review, and connecting clinicians with patients. Historically the ward round was framed as a process through which medical staff, generally accompanied by nurses, attended the bedside of patients and made clinical decisions. (Ahmad, Purewal, Sharma, & Weston, 2011; Nikendei, Kraus, Schrauth, Briem, & Junger, 2008). In many settings this traditional form of rounding continues today. Ward rounds have evolved into more regular multidisciplinary review processes, (Fiddler et al., 2010), often with structured or scripted processes that aim to enhance communication among the team. (Gurses & Xiao, 2006). As a strategy for organising nursing work, rounding involves nurses or the nursing team (including care workers who deliver nursing care) attending to patients at regular intervals; thereby affording a systematic approach to ensuring patients and nurses are in regular contact.

A number of systematic reviews have examined the impact of multidisciplinary rounding on patient satisfaction (Gurses & Xiao, 2006), length of stay (Mercedes, Fairman, Hogan, Thomas, & Slyer, 2015), patient satisfaction (Tan & Lang, 2015), and reduction in call bell use and patient falls (Mant, Dunning, & Hutchinson, 2012; (Mitchell, Lavenberg, Trotta, & Umscheid, 2014). Criticism of the merits of rounding include the view that it is a return to routinised or thoughtless care (Dix & Braide, 2012) and driven by political whim (Snellink, 2003). Other critics note that rounding is unnecessarily task focused (Lyons, Brunero, & Lamont, 2015) and associated with increasing work

intensification (Willis et al., 2015). Greater clarity on the nature and purpose of rounding is required to address these concerns.

Background

In the United States (US), forms of rounding have gained prominence in response to growing healthcare consumerism (Fabry, 2015; Studer, 2003) and value-based funding models, which have tied patient satisfaction to hospital funding (Willis et al., 2015). In this context, rounding has been implemented as a driver of patient satisfaction and efficiency, which has been measured through items such as call bell usage and general nursing responsiveness (Meade, Bursell & Ketelsen, 2016). To demonstrate compliance with rounding, nurses and care workers log their rounding activities (Deitrick, Baker, Paxton, Flores, & Swavely, 2012). These scripted and tightly structured forms of nurse rounding are often labelled “intentional”. Rounding is usually conducted at one or two hour intervals, with care staff attending to specific aspects of patient care according to a pre-determined script (The King's College London, 2013). Informed by models of rounding, largely emerging from the US, nurse rounding was put forward by politicians in the United Kingdom (UK) as a strategy to address public perceptions of shortcomings in nursing care standards (Dix & Braide, 2012).

Attention has also turned to nurse rounding as a vehicle for ensuring care quality and assuring patient safety (Author, 2015). This focus has occurred against a backdrop of chronic and acute nursing shortages, and pressure for increased efficiency that has led to growing numbers of unqualified or certified care workers delivering nursing care (Gardner, Woollett, Daly, & Richardson, 2009). These changes in the profile of the nursing workforce has meant that professional models of nursing care, which rely upon the skilled professional judgement of nurses, are being supplemented by strategies to provide guidance to less qualified care

workers engaged in nursing care delivery. Moreover, as patient acuity levels and the demands on nurses' time has increased, and the number of care support workers has grown, structured approaches have been adopted to ensure care is regularly performed and there is sufficient nursing oversight of patient's fundamental care needs (The King's College London, 2013). In environments where care workers deliver nursing care, rounding has been adopted to guide these workers in emulating professional nursing behaviour and systematically attend to care (Tan & Lang, 2014).

Another form of rounding is daily rounding. This form of rounding has often been employed by bedside nurses and unit managers to improve care safety and quality (Ybarra, 2015). It has also been employed to engage clinical leaders and executives at the service delivery interface (Burnett et al., 2008). Rounding has also been incorporated as a strategy to structure nursing handover and to detect the deteriorating patient (Anderson & Mangino, 2006). Thus, the frequency, intent and characteristics of nurse rounding are highly variable, and one form of rounding is not necessarily comparable to another.

The need for definitional clarity and consistency

Evident in the nursing literature, including a number of systematic reviews, is a lack of definitional consistency on the essential characteristics of nurse rounding. For example, the stated aim of the systematic review by Mant and colleagues (2012) was to examine the impact of hourly rounding on falls prevention. However, the definition of rounding employed in this review included hourly and second hourly rounding (Mant, Dunning & Hutchinson, 2012). Similarly in another systematic review, the stated aim was to examine "the effectiveness of structured multidisciplinary rounding in acute care units on length of hospital stay (Mercedes, Fairman, Hogan, Thomas & Slyer, 2015 p, 141). However, the

search terms for this review did not include terms that related to “structured rounding”. Authors of other systematic reviews described multidisciplinary rounds as “patient care rounds” (Lane, Ferri, Lemaire, McLaughlin, & Stelfox, 2013), or aimed to examine hourly rounding, but included studies of hourly and second hourly rounding that employed various structures and processes for the rounding process itself (Mitchell, Lavenberg, Trotta & Umscheid, 2014). Thus, this body of systematic review evidence that synthesises and compares studies with little homogeneity in their purpose, design and intent has significant limitation (Akobeng, 2005).

In addition to issues of definitional clarity, the accuracy with which the findings of studies of nurse rounding have been interpreted and represented in the literature requires careful consideration. Snelling has cautioned that claims made are not borne out in the evidence (Snelling, 2013). Misinterpreting the weight of evidence, authors have reported findings from an integrative literature review as findings from a meta-analysis (Emerson, Chmura & Walker, 2014). Moreover, many of the studies included in systematic reviews of nurse rounding do not meet basic criteria required of primary research.

Given the growing emphasis upon nurse rounding, the lack of definitional consensus on types of rounding, and the contested perspective on the merits and models of nurse rounding, we aimed to provide clarity through a bibliometric analysis of the literature on nurse rounding. In undertaking the analysis, we sought to map the forms of nurse rounding occurring, reveal evolving trends, and provide definitional clarity on the patterns and types of nurse rounding occurring in different countries and contexts.

Method

Initially a structured search of the literature was undertaken to identify manuscripts reporting studies on nurse rounding.

Design

Search strategy: The databases searched were PubMed, CINAHL and PsycINFO, using the keywords nurs* or nurse and “rounding” or “rounds” or “intentional rounding” or “purpose* round*”. The approach was to combine a term for nurse with a term for rounding using the “AND” Boolean search operator, and the combining additional search terms using the “OR” operator. To capture evolution of thought in the field the period for the search was 2000 to 2015. The initial searches were undertaken by the second author under the guidance of a health services librarian.

Eligibility criteria: Screening for eligibility was undertaken independently by two members of the team. The following criteria were employed to identify suitable papers: i) primary research studies focused upon nurse rounding, ii) written in English, and iii) published in peer reviewed journals.

Screening process: All manuscripts identified from the search were screened for eligibility. After which the full text of relevant manuscripts were reviewed. Excluded during this review were manuscripts (n=26) focused upon non-relevant rounding types (handover or case review, medication or pharmacy rounds, multidisciplinary rounds that were not nursing-led or that failed to define specific nursing roles, rounding by rapid response teams, studies focused upon family involvement in ward rounds or those addressing rounding as a student learning strategy, handover and staff perceptions or experiences of rounding). Manuscripts reporting quality assurance or service improvement activities (did not report approval from an institutional Human Research Ethics Committee or lacked sufficient methodological detail to be considered research) were also excluded during this process (n= 14). The country of

origin for studies excluded on the basis of being quality assurance activities were the United Kingdom (n = 10), Canada (n = 1), United States (n = 2) and Singapore (n = 1).

Analysis

Bibliometric analysis is a form of quantitative document analysis that seeks to identify patterns or trends in a body of published work (Pendlebury, 2008). It is commonly employed in the analysis of research systems and scholarly outputs, and it has become an important tool in evaluating performance and establishing trends. Though bibliometric analysis often remains at the level of classifying publication characteristics (such as journal, date, country), it can be adapted to include analysis of the focus of studies reviewed (Almeida-Filho, Kawachi, Filho & Dachs, 2003).

In this study, we sought to establish trends in the nature, focus and spread of studies on nurse rounding. To allow more detailed analysis an individual summary of the characteristics of each study was undertaken by the first author and coded to an Excel spreadsheet. Studies were coded by author, country, methodology, year, and rounding type. As there is no existing definitional clarity on types of nurse rounding, descriptions of the defining characteristics or primary focus of rounding in each study were extracted, coded and clustered to derive definitional categories suitable for comparative analysis. By categorising studies in this way a taxonomic understanding of forms of nurse rounding could be derived (Jokiniemi et al., 2012). Following this process, a descriptive and comparative analysis was performed using SPSS V22.

Results

After removal of duplicates, and screening titles and abstracts, thirty eight primary research studies of nurse rounding were retained for further analysis (Figure 1). Only eight manuscripts in the current review, were also reported in the earlier review by Mitchell, Lavenberg, Trotta & Umscheid (2014). Seven studies included in this earlier review were excluded from the current study as they did not receive ethical approval as research studies.

Insert figure 1 about here

The period of publications retained spanned from 2006-2015 (see Table 1). The bulk of studies were undertaken in the United States (US) (n=27, 71%), followed by the United Kingdom (UK) (n=4, 10.5%), Australia (n=3, 12.5%) and Europe/Asia (EUA) (n=3, 7.6%). Figure 2 illustrates that, over the ten year period, publications initially peaked in 2009, followed by a more significant peak in 2012, after which publication rates have been sustained at a higher level than earlier periods. The majority of studies were cross sectional or quasi-experimental pre-post designs (n=28, 73.4%) or quality assurance initiatives that had received appropriate ethical approval and reported a structured research design (n=10, 26.3%).

Insert table 1 about here

Insert figure 2 about here

Breakdown according to journal outlet (see Table 2) indicated that few journals published more than one manuscript on nurse rounding, with the exception of the International Journal of Nursing Practice (n=4), MedSurg Nursing (n=2) and Nursing Standard (n=2) and Journal of Nursing Care Quality (n=3).

Insert table 2 about here

Analysis of the papers according to first author indicated that half of the first authors were clinical nurse specialists and nurse consultants (or similar nursing roles) (n=20, 50%), followed by nurse researchers (n=13, 32.5%). Closer scrutiny of the category of care worker delivering rounding identified that, many of the studies delivered rounding via unlicensed assistive personal accompanied by nurses. In order of frequency, the category of workers in the studies were described as Registered Nurses and/or unlicensed assistive personnel (n=13, 34.2%), nurses (n=12, 31.5%), Nurse Leaders or specialist nurses (n=7, 18.4), staff not specified (n=3, 7.9%) and nurses assistants (n=1, 2.6%).

A common theme across all rounding types was that rounding was employed as a strategy to organise nursing work in pursuit of improved patient outcomes. Frequency analysis of the types of nurse rounding identified four primary forms of rounding (see Table 3). The four forms of rounding had different goals and rounding processes and were defined as follows:

- *Scripted rounding.* This form of rounding is a structured nurse patient interaction that occurs within specified timeframes and follows a standardised script or uses key words and actions to cue nurse and/or care worker and patient interactions. Usually included in the scripted rounding is an assessment of patient comfort, whether the patient has unmet needs or requires assistance with toileting, and assistance with other tasks related to patient comfort, safety or satisfaction.
- *Targeted rounding.* This form of rounding involved regular attendance by nursing or care staff at the patient bedside targeting specific preventive or early detection activities.

- *Leader rounding*: This form of rounding involved unit nurse managers regularly attending the patient bedside to monitor appropriate care delivery.
- *Collaborative rounding*: This form of rounding involved specialist, expert or advanced practice nurses regularly attending the patient bedside to guide, lead or support nursing staff or the inter-professional team in the delivery of nursing care.

Examination of the trends in rounding type identified that scripted rounding gained considerable attention in the period 2010-2012. Although scripted rounding remains the common focus of investigation, collaborative rounding has emerged more recently as a focus (see Figure 3).

Insert figure 3 about here

Consistent with the goal of examining trends in nurse rounding over time, and to provide a longitudinal perspective of the development of the field, a variable was created by clustering studies into three year periods. These periods were sufficient to provide a finer grained interpretation of changes in the nature and focus of rounding as it has evolved. Comparative analysis across these timeframes illustrated that for the period 2006-2009, 88% (n=5) of papers originated from the US; in 2010-2013, 65% (n=11) were from the US; and in 2014-2015, 69.2% (n=9) of papers originated from the US reflecting the international investigation of this initiative. A breakdown of rounding types during each these periods is summarised in Table 3. This table shows that scripted rounding peaked during 2010-2013, at 65% of papers published, by 2014-2015 scripted rounding had fallen to 46.1% of papers, with collaborative rounding constituting 30.7% and patient satisfaction focused at 15.3%. These results suggest that as the field has matured, a more nuanced interpretation of nurse rounding is emerging.

Insert Table 3 about here

Discussion

It is evident from our analysis that exploring the nature and benefits that arise from nurse rounding has remained a consistent theme of nursing research over the last decade. It is also clear that the focus of nurse rounding has shifted over the period reviewed. Moving from a focus on rounding as a vehicle to assure patient comfort, towards two broad strands of activity. The first strand positions rounding as a care assurance strategy in workforces characterised by a high dependency on nursing assistants. In this context, scripted rounding is a mechanism to structure the delivery of fundamental nursing care. The second strand positions rounding as a strategy to optimise skilled nursing surveillance, and as a vehicle for collaboration and sharing of nursing expertise. Underpinning both of these strands of activity is acknowledgement of the link between the delivery of timely and responsive nursing care and patient safety (Mitchell, Lavenberg & Trotta, 2014; Twigg, Myers, Duffield, Giles & Evans (2015). Attention to investigating the nature and impact of these two broad forms of rounding highlight that both basic (Alaloul, Williams, Myers, Jones & Logsdon, 2014; Blakley, Kroth & Gregson, 2011) and expert nursing care (Catangui & Slark, 2012) is linked to patient safety and improved patient outcomes.

The frequency of research attests that both of these dimensions of nursing practice remain important. Importantly, nurse rounding has evolved into a work management strategy that provides the ability to oversight and coordinate multiple aspects of nursing care, with the surveillance and coordination functions of rounding reducing preventable missed or adverse care.

Our analysis highlighted poor definitional clarity on forms of rounding. In order of frequency, rounding was most commonly described as hourly (even when it occurred outside of hourly timeframes), followed by intentional, proactive, structured or routine. Scripted rounding was presented in the studies reviewed under various labels (such as intentional, hourly, and 3 or 4Ps rounding). A consequence of this lack of definitional clarity there is poor homogeneity in studies compared in published systematic reviews (Mant & Hutchinson, 2012). It is remarkable that research has progressed in this field with little attention to more carefully conceptualising the nature or purpose of the various forms of rounding.

This paper provides a detailed examination of research activity on nurse rounding and offers a classification to usefully differentiate the forms of rounding identified in the body of studies reviewed. In proposing a typology of four variants of nurse rounding, we provide a framework to enhance consistency and clarity for researchers in the field. Furthermore, as this field of nursing research and quality improvement activity continues to grow, it is important that careful consideration is given to the labels used to describe types of rounding. We suggest that attention be given to more clearly delineating whether scripted rounding is a form of nurse rounding, or whether this should be positioned as a tool to regulate the delivery of nursing care by workforces constituted by a significant proportion of unlicensed care workers. There is a risk that continuing to frame this strategy as “nurse rounding” masks that, this form of rounding has largely been implemented as a risk mitigation strategy in workforces characterised by increasing levels of unskilled or certified workers. Nurse researchers, managers and scholars should give careful attention to the political and organisational agendas that are not made evident currently in this body of work.

Although we created the category of targeted rounding, this remains an under developed strand of nursing research. In searching the literature we identified a number of studies of rapid response teams (RRTs), many of which were led by nurses or dependent upon nurses for the assessment and rounding that triggers the rapid response (Winters et al., 2007).

While a number of these papers made reference to nurse rounding, the role of nurse rounding (either proactive rounding by the RRT nurse, or rounding by ward nurses) is largely invisible in the body of literature on RRTs, and has received little substantive attention from nurse researchers. Systematic reviews on this topic focus upon RRTs and patient outcomes without consideration of whether a nurse rounding processes underpinned the RRT systems (Chan, Jain, Nallmothu, Berg & Sasson, 2010). Other authors report that proactive rounding by RRTs reduce inpatient cardiac arrests (Guirgis, Gerdik, Wears, Williams, Sabato & Godwin, 2013), yet it appears in this study that the rounding was undertaken by nurses and not the RRT.

Conclusion

Our analysis has highlighted a number of trends in the field of nurse rounding. Firstly, the field has diversified as attention has been given to collaborative forms of rounding. The analysis presented provides an evolutionary perspective on this development. **Secondly, while there has been continued research activity, there is poor definitional clarity between different forms of rounding, with little homogeneity in studies for which comparisons have been made.** In order to enhance the evidence base in this field we encourage future research give more careful attention to defining the concepts under study and adopting consistency in nomenclature and definitions. Our framework provides a putative model for further testing.

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Table 1: Publication details and rounding type

Authors	Year	Country	Study design	Setting Participant number	Scripted	Targeted	Leader	Collaborative
Alaloul, Williams, Myers, Jones & Logsdon	2014	US	Pre-post	Med surgical N=unreported	•			
Aitken, LM, Burmeister, E, Clayton, S & Gardner	2011	US	Pre-post 2 group	ICU N=171	•			
Anderson, M., Finch, G., Kraft, W., Reciks, P., Skay, C., Beal, L., Barra & Guttman,	2015	AU	Pre-post	ICU N=146				•
Blakley, Kroth & Gregson	2012	US	Pre-post	Med surgical N=2000	•	•		
Brosey & March	2015	US	Pre-post	Medical surgical N=81	•			
Catangui & Slark	2012	UK	Descriptive	Acute setting N=108				•
Deitrick, Baker, Paxton, Flores & Swavely	2012	US	Ethnographic	Inpatient units N=2	•			
Emerson, Chmura, & Walker	2014	US	Pre-post	Paediatric N=200	•			
Fabry, D.,	2014	US	Descriptive	Hospital (N=67)	•			
Gardner, Woollett, Daly & Richardson †	2009	AU	Pre-post parallel group	Hospital N=129	•			
Goldsack, Bergey & Mascioli	2015	US	Non-random	Surgical N=129	•			
Guirgis, Gerdik, Wears, Williams, Sabato & Godwin	2013	US	Retrospective review	Inpatient N=153,138		•		
Harrington, Bradley, Jeffers, Linedale, Kelman & Killington Myer	2013	AU	Descriptive	Inpatient N=86	•			
Meehan & Beinlich	2015	US	Descriptive	Hospital N=15			•	
Kessler, Claude-Gutekunst, Donchez, Dries & Snyder †	2012	US	Mixed	Hospital N=unreported	•			•
Krepper, Vallejo, Smith, Lindy, Fullmer, Messimer, Xing & Myers	2014	US	Pre-post two group	Surgical N= unreported	•			
Lee, SM & Manley,	2008	US	Case study				•	
Lowe & Hodgson	2012	US	Descriptive	Hospital N=44	•			
Mahanes, Quatrara & Shaw	2013	US	Descriptive	Hospital N= unreported				•
Meade, Bursell & Ketelsen	2006	US	Pre-post	Multiple units N=unreported	•			
Mower-Wade & Pirrung	2010	US	Descriptive	Hospital N=unreported				•
Murphy, et al.,	2008	US	Descriptive	Hospital	•			
Negarandeh, Bahabadi & Mamaghani	2014	EUA	Pre-post with control	Med surgical N=50	•			
Olrich, Kalman & Nigolian †	2012	US	Pre-post	Med surgical N=4418	•			
Purvis, Gion, Kennedy, Rees, Safdar, VanDenBergh & Weber	2014	US	Descriptive	Med surgical N= unreported				•
Pritts & Hiller	2014	US	Pre-post	Trauma centre N=38				•
Reimer & Herbener ‡	2014	UK	Pre-post	Inpatient N= unreported	•			
Saleh, Nusair, Zubadi, Al Shloul & Saleh†#	2011	EUA	Pre-post	Inpatient stroke N=104	•			
Sobaski, Abraham, Fillmore, McFall & Davidhizar. †	2008	US	Pre-post	Cardiac telemetry N=unreported	•			
Spanaki, McCloskey, Remedio, Budzyn, Guanio, Monroe & Barkley	2012	EUA	Pre-post	Epilepsy unit N=971	•			
Tea, Ellison & Feghali †	2008	US	Pre-post	Orthopaedic N=202	•			
Tucker, Bieber, Attlesey-Pries, Olson, & Direkhising. †	2012	UK	Pre-post	Orthopaedic N=2170	•			
Walker, Duff & Fitzgerald	2015	AU	Qualitative	Med surgical N=unreported	•			
Wickson-Griffiths, Kaasalainen, Brazil, McAiney, Crawshaw, Tuner & Kelley	2015	US	Qualitative	Long-term N=40				•
Woodward, †	2009	US	Pre-post	Surgical N=unreported			•	
Yevchak, Fick, McDowell, Monroe, May, Grove & Kolanowski	2014	US	Cluster RCT	Inpatient N=192				•

† Included in systematic review Mitchell et al., (2014); ‡ Included in the systematic review Mercedes et al., 2015; # Subsequently retracted by Journal

Table 2: Breakdown of publications by Journal (n=38)

International Journal of Nursing Practice	4
MedSurg Nursing	2
Nursing Standard	2
Journal of Nursing Care Quality	3
Pain Management Nursing	1
Journal for Healthcare Quality	1
The Journal of Emergency Medicine	1
Journal of Trauma Nursing	1
JOGNN	1
International Journal of Orthopaedic and Trauma Nursing	1
J Wound Ostomy Continence Nursing	1
Clinical Nurse Specialist	1
Clinical Journal of Oncology Nursing	1
British Journal of Nursing	1
American Journal of Nursing	1
The Health Care Manager	1
International Journal of Orthopaedic and Trauma Nursing	1
Orthopaedic Nursing	1
Journal of Gerontological Nursing	1
Nursing Administration Quarterly	1
Nursing Management	1
Resuscitation	1
Journal of Trauma Nursing	1
Critical Care Nursing Quarterly	1
Nursing 2015	1
Intensive and Critical Care Nursing	1
Asian Nursing Research	1
Clinical Nursing Research	1
Worldviews on Evidence-Based Nursing	1
Epilepsy and Behaviour	1

Table 3: Breakdown of publications by rounding type

Rounding Type	Frequency	(%)
Scripted	24	(63.1)
Collaborative	9	(23.6)
<i>Nurse-led inter-professional rounding</i>	4	
<i>Specialist nurse or peer rounding</i>	5	
Leader	3	(7.9)
Targeted	2	(5.3)
Rounding to target pain or falls prevention	1	
Early detection	1	