Exploring the role of nursing in implementation of collaborative integrated models of care in the community: a scoping review

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Abstract

Purpose

Although the nursing role appears central in delivering collaborative models of care little is known about the experience of nurses within implementation of integrated nursing care.

Methodology

A scoping review to identify what is known about the experience of nurses implementing integrated care in the community, incorporating thematic analysis utilising the Rainbow Model.

Findings

Although noting a paucity of evidence, findings indicate implementation of integrated care models provides both challenges and opportunities to nurses across all systems levels. Thematic analysis highlights a disproportionate lack of focus on organisational integration of nursing services within integrated care. Exploration of tacit attributes and network development is suggested to support nursing delivery of services which challenge traditional organisational and professional boundaries.

Originality

Using a systems approach, applying the Rainbow Model within scoping review analysis, enabled exploration of what is known about nursing within the contemporary context of integrated healthcare services.

Research implications

Limited research exploring experiences of nurses in implementing integrated care suggests more rigorous mixed methods or qualitative research is indicated, including case studies exploring organisational integration, nursing leadership strategies and how tacit attributes support collaborative working.

Keywords

Community nurse; Community care; District nurse; Holistic care; Integrated care; Nursing models

Background

The challenges of delivering effective healthcare services have led to increased interest in understanding the development and implementation of integrated care services (World Health Organization [WHO], 2016). Integration of primary and community services appears of particular importance (Wallace *et al.*, 2020), a key element of which is adopting innovative models facilitating cross-sectoral working (WHO, 2016). Nurses are uniquely placed to support integration due to pre-existing knowledge of communities' healthcare needs (Duncan, 2019a), leading transformation through implementing innovation at micro and meso levels (Duncan, 2019b). As collaborative co-production of healthcare models within communities appears to be central to service development, it is important to understand the role of community nursing in supporting these ambitions (Marmot *et al.*, 2020).

Within the United Kingdom [UK] there is growing awareness of the importance of developing community services, including translation and implementation of innovative nursing models from other national and global contexts (Wallace *et al.*, 2020). Interventions such as Neighbourhood Nursing and Place-Based models demonstrate nurses supporting and leading implementation of collaborative working integrated care (Baker and Anderson, 2022). The complexity of service integration has made implementing collaborative models problematic (Goodwin, 2016), particularly within primary and community care settings due to the need to adapt innovations to suit community requirements (Hendry *et al.*, 2021). This had led to adoption of a variety of integrated care models, as no one approach will suit all contexts (de Bruin *et al.*, 2020).

Systems approaches acknowledge healthcare services are dynamic and complex, comprising of multiple interacting components which must be considered in context (Trochim et al., 2006). Integrated-care service design must understand relationships between each part of the system (Edgren, 2008), supporting development of collaborative working across macro, meso and micro dimensions (Valentijn, 2016), to enhance "connectivity, alignment and collaboration" (WHO, 2016, p.3). As primary care is a core context for development of integrated services Valentijn et al. (2013) constructed a conceptual framework to depict the complex interactions between the multiple dimensions. The Rainbow Model (Valentijn, 2016) proposes six dimensions of integration occurring across all system levels, with

exploration of relationships between dimensions facilitating understanding of the complex interactions supporting integrated working. Allana et al. (2022) demonstrated effective application of the Rainbow Model (Valentijn *et al.*, 2013) in a scoping review examining the role of paramedics within integrated care, suggesting application of the framework may support primary and community nursing services to map and examine the collaborative relationships facilitating integration (Valentijn, 2016). Understanding the role of the nursing workforce within a community setting can support planning and delivery of integrated community care, but little is known about implementation from a nursing perspective (Lukewich *et al.*, 2019). This research adopts a systems approach to explore these complex dynamics, using the Rainbow Model (Valentijn, 2016) as a 'lens' through which to read and identified core concepts, to examine what is known about the experience of nurses leading implementation and delivery of collaborative integrated care models.

Methods

Scoping reviews support exploration of complex concepts, identifying existing evidence and knowledge gaps, informing research and policy development (Dijkers, 2015). The Peters et al. (2020) nine-step scoping review framework promoted methodical investigation.

1. Defining and aligning objectives

The research aimed to identify what is known of the experience of community nurses within implementation of integrated models of care (Lukewich *et al.*, 2019). The PCC [population, concept, context] (Peters et al., 2020) was used to clarify objectives- to understand the role and experience of nurses in the United Kingdom across all levels (population) in implementation of collaborative integrated care models (concept) within community services (context).

2. Developing and aligning inclusion criteria

The sampling strategyaimed to identify all relevant studies, including research, expert opinion and discussion pieces, and grey literature from key sources (including policies and guidelines if relevant). Studies were excluded if over 10 years (to ensure contemporaneous sources), not in English/ Welsh language.

Inclusion criteria aligned to research aims produced defined search terms:

Population: District nurse; Community nurse; Primary care nurse; General Practice nurse.

Concept: Integrated care; Community resource teams; Neighbourhood models; Place-based models.

Context: Community services; Primary care; Community care.

3. Approach to evidence searching

Searches were conducted by the primary researcher with support from subject specific librarian and verification from secondary researcher. Electronic sources utilised included Bangor University Library Database, Pubmed and Cinahl and relevant rey literature sources. Hand-searching of reference lists was included as per scoping review methodology.

4. Study selection

Following a pilot search the review of titles identified demonstrated good sensitivity but moderate specificity, inclusion criteria were further developed to indicate sources must provide exploration or explanation of the role of the nurse within implementation of integrated models of care, not just outline nursing is included.

5. Selecting the evidence

Initial screening of title and abstract by the primary reviewer occurred during each search guided by the inclusion criteria, the PRISMA flow diagram (Figure 1) illustrates the screening and refinement process within study selection.

As identified within the scoping review methodology critical appraisal is not indicated within study selection. The reviewer adopted a reflexive approach guided by inclusion criteria, with findings corroborated by the second reviewer if indicated.

6. Extracting the evidence

Data extraction identified key study information as required within the review methodology (Peters et al., 2020). The papers subject to analysis are set out in Table ii.

7. Analysis of the evidence

Due to conceptual complexity data was initially analysed at a semantic level, utilising a deductive approach to capture manifest meaning (Peters et al., 2020), with the Rainbow Model (Valentijn, 2016) used as a 'lens' through which to read and identified core concepts, Figure 2. Following initial analysis data was explored adopting a reflexive approach, open to latent theme development (Braun and Clarke, 2021), to depict the nursing experience in implementing integrated care.

8. Presentation of the results

Results were presented utilising identified categories and themes to elucidate the role of nursing, nurse leadership and experience of implementing integrated care in the community.

9. Summary, conclusion and recommendations

Summary of findings and discussion linked back to the original research aims, with recommendations for further research (Peters et al., 2020).

Prisma flow diagram- Figure 1

Figure 1

Results

Scoping review data chart- Table i

Table i

Descriptive Content Analysis

The paucity of research exploring the experience of nursing and nurse leadership in implementing innovative models of integrated care in the community highlights an important research opportunity. Consideration of geographical context suggests particular interest in adaption of innovation from the Netherlands to the UK, examination of year of publication data suggesting sustained interest in collaborative models of integrated care.

Focused Thematic Analysis

Semantic analysis of category concepts demonstrates a moderately even distribution (Figure 2), the anomaly is organisational integration at 5%, suggesting a lack of focus on inter-organisational relationship development at a meso level. Reflexive thematic analysis (Braun and Clarke, 2021) allowed identification of latent themes occurring within each category.

Distribution of categories and themes- Figure 2

Figure 2

Categories and Themes

The papers included within the scoping review focused on nursing within a community context (Table i), therefore the categories and themes derived from reflexive analysis are underpinned by research framed through an understanding of the role of nursing, nurse leadership and nurses experience of implementing integrated care in the community.

Clinical integration

'Person-focused philosophy' described the adoption of holistic approaches (Downes and Pemberton, 2009), with nursing praxes and clinical integration guided by shared "central philosophy" (Nandram and Koster, 2014, p.176); but requiring structural innovation through nurse leadership (Leask *et al.*, 2020). **'Accessibility and responsiveness**' can be an advantage of neighbourhood team models (Nandram and Koster, 2014), although translation of flexible working strategies supporting responsive care can prove challenging for leaders within the UK (Leask *et al.*, 2020).

Hamm and Glyn-Jones (2019) suggest continuity of care can lead to improved service user outcomes and nursing staff (and wider team) satisfaction, providing '**Added meaning'**. Nurses ability to apply **'Craftmanship- experience and skill'** appeared to contribute to this (Downes and Pemberton, 2009). Although clinical nurse leadership sought to enable nurses practice to demonstrate and enhance nursing skill (Uittenbroek et al., 2018) nurses found the ability to exhibit full scope of practice was not universal (Leask et al., (2020).

Professional integration

Leask et al., (2020) described blurring of nursing and other professional boundaries leading to conflict, '**Barriers and resistance'** at a micro and meso levels. Conversely Uittenbroek *et al.,* (2018) found reciprocal relationships facilitated improved access and outcomes. Hamm and Glyn-Jones (2019) describe friction in team and service development occurring when legitimacy of views was not acknowledged. Developing a community of professionals necessitated space to be heard, **'Valuing all'** within teams and across organisations (Downes and Pemberton, 2009). Parsons and Wade (2023) describe implementation of place-based innovation as "time intensive" (p. 63), Uittenbroek et al. (2018) concur, highlighting physical space is also required, necessitating additional **"Time and space'**.

Organisational integration

'**Regulation and recognition'** supports integration through developing specific professional standards (Parsons and Wade, 2023), Hamm and Glyn-Jones (2019) suggest the distinct skills and knowledge required of nurses involved within delivery of integrated models of care requires a discrete career framework. Although clear **'Governance and guidance'** must support implementation Uittenbroek et al., (2018) highlighted these must be adaptable and co-produced, to facilitate flexible working praxes.

Systems level integration

Developing integrated care systems is reliant on formal and informal **Networks of knowledge'**, responsive to contextual requirements (Downes &and Pemberton, 2009). Creating networks requires nurse leadership to focus on nurses **'Engaging in relationships'**-collaborative working supported by establishing links "enhancing feelings of connectedness" (Uittenbroek et al., 2018, p6.). Hamm and Glyn-Jones (2019) highlight challenges operating as self-managing teams within the larger organisation, **'Integration with existing'** risking potential loss of clarity of vision (Leask *et al.,*2020). All papers identify the importance of nurses '**preparation for innovation' (**Parsons & Wade, 2023)**,** nurse leaders must explore adaptation of new models prior to translation, introducing supportive structures to help teams overcome challenges and plan for wider uptake (Hamm & Glyn-Jones, 2019).

Functional integration

'Supporting autonomy' and decision making at a micro level requires challenging established working practices across all levels (Nandram and Koster, 2014). Facilitating "professional freedom with responsibility" (p.534) necessitates sharing power, therefore consideration must be given to how new nursing roles interact with existing managerial and leadership structures (Hamm &and Glyn-Jones, 2019). '**Supporting self-management**', seems central to collaboration within neighbourhood models (Nandram and Koster, 2014), with benefits linked to the provision of person-centred approaches.

'**Technology- enhance or inhibit'** was the strongest theme occurring across all sources, enabling effective communication and supporting autonomy (Hamm &and Glyn-Jones, 2019). Development and integration of Information Technology systems may enhance collaborative working (Downes &and Pemberton, 2009), but to empower service providers

must be developed in collaboration with nursing teams and allow integration with existing systems (Nandram and Koster, 2014).

Normative integration

Normative integration must be addressed at micro, meso and macro levels, embedding integrated working to '**Normalise the new'**. Collaborative working must become second nature to nurses across the system (Downes and Pemberton, 2009), but requires strong nursing leadership to allocate time for development of shared values (Leask *et al.,* 2020).

Nandram and Koster (2014) suggest central to successful implementation is '**clarity of mission and vision'**. Hamm and Glyn-Jones (2019) caution as neighbourhood models are translated to new contexts that the mission vision must be maintained to reduce dilution of benefits. Nurse leadership will need to recognise translation requires '**Learning and unlearning'**, described through examination of traditional nursing practice and nurse knowledge to identify opportunities for growth (Hamm and Glyn-Jones, 2019).

During reflexive analysis two interlinked themes traversed predetermined categories, not aligned with existing categories of the Rainbow model (Valentijn *et al.,* 20135). As the two themes appeared integral within nursing implementation of integrated care an additional category of 'Tacit Attributes' was identified to describe these core traits (Figure 2).

Tacit attributes

Enthusiasm, drive and determination' is the first cross cutting theme, occurring across all sources. Parsons and Wade (2023) state "The enthusiasm, drive, determination and leadership of the professional lead proved to be pivotal" (p.60) in implementing a place-based team, working across organisations at a meso level. Leask *et al.* (2020) describe drive and commitment at team level as integral to integration, supported by persistence and skill to overcome challenges (Parsons and Wade, 2019). Hamm and Glyn-Jones (2019) caution nurses' enthusiasm for innovation may encounter resistance if systems are not ready for change, Nandram and Koster (2014) suggest motivation may be encouraged through developing supportive systems.

'Flexible creativity' appears core in implementing and delivering innovative integrated care, as "having to adapt" (Uittenbroek *et al.,* 2018, p. 8) and being responsive to contextual requirements. Although linked to autonomy and craftsmanship, flexible creativity draws on

tacit nursing skills such as reflexivity to facilitate independent problem-solving (Nandram and Koster, 2014) and a solution-focused approach (Uittenbroek *et al.*, 2018). Implementation of integrated place-based teams at a micro and meso level requires “insight and emotional intelligence” (Parsons and Wade, 2023, p.61).

Discussion

Although there is a growing interest in integration of community services (Auschra, 2018) and nursing appears central in implementation of collaborative care models (Truland, 2014), findings suggest a paucity of evidence exploring the experience of nurses across all levels within system innovation. Translation of innovative models tailored to address contextual requirements (de Bruin *et al.*, 2020) necessitates strong nursing leadership to embed holistic philosophies in delivery of person-centred services.

Nursing takes place in multi-faceted contexts (Marmot *et al.*, 2020) and analysis demonstrates both barriers and opportunities for nursing across all system levels within the delivery of neighbourhood and place-based models. Nursing within co-located or inter-professional teams can lead to the sharing of knowledge and the erosion of traditional role boundaries (Bonciani *et al.*, 2018). Conversely some nurses identified this led to blurring of professional identities and risked erosion of what it is to be a community nurse (Leask *et al.*, 2020), others found this expansion of roles as an opportunity for development (Hamm and Glyn-Jones, 2019). Opportunities for learning and development appear to require nurses' engagement in a process of 'Learning and unlearning' (Uittenbroek *et al.*, 2018), a reflexive examination of their own knowledge to identify opportunities for growth (Hamm & Glyn-Jones, 2019).

Through being open and receptive to new knowledge nurses can play an integral role in the development of communities of practice which engage in social learning (Wenger, 2010). Moving away from conventional contemporary service delivery, or a return to more traditional community focused services (Nandram and Koster, 2014), appears to offer added meaning to nurses, service users and providers. This may require a change in nurse leadership approaches, moving toward autonomous self-managing teams (Monsen and DeBlok, 2013). Duncan (2019) advocates the use of transformational leadership models to facilitate integrated care but cautions that nurses at all organisational levels require support and training to develop the necessary leadership skills to embed collaborative working within the community. Devolution of power may be inhibited by traditional professional hierarchies (McAdam & McCreedy, 2000), but facilitated by entrepreneurial leadership (Wankah *et al.,*2022) to allow for development of autonomy within integrated care teams.

Although inter-organisational integration is a core element of collaborative models of working in the community (Auschra, 2018), results of analysis suggest a disproportionate lack of focus on organisational integration of nursing services within integrated care. Evans et al. (2016) highlight the importance of preparing for integration through understanding inter-organisational capabilities, exploring and aligning structures, values and processes at a meso level. Leask et al. (2020) caution pressure to initiate innovative models may inhibit this process, therefore nurse leadership must create time and space to prepare for innovation, develop teams, cultivate mutual aims and align organisational strategies. Pyrko et al. {2017) propose the term 'thinking together' in describing how learning partnerships support development through mutual exploration.

Integrated teams bring together individuals from different professions - each bringing their language, ideology and ways of working, highlighting the importance of synthesising knowledge from diverse sources to enable innovation (McAdam & McCreedy, 2000). Analysis identified the importance of tacit attributes which enable integration but are difficult to define and operationalise. Flexible creativity and freedom to innovate appear to be core nursing attributes to support innovative working, although this requires exploration of how this could be supported and enhanced in the context of nursing within integrated care. Hamm and Glyn-Jones (2019) propose this can be facilitated through clear role delineation and robust frameworks. Baig et al. (2022) agree, proposing development of innovative working behaviours through job crafting, exploring role boundaries and resources to facilitate autonomy and motivation to innovate. McSherry and Douglas (2011) state that although introducing innovation in nursing practice is complex and challenging an embedded culture of entrepreneurial creativity can facilitate change.

Conclusions

Utilising a systems perspective, with innovative use of the Rainbow Model (Valentijn, 2016) as a 'lens' to examine core concepts, was an effective approach to support exploration of the experience of nurses in delivering integrated care in the community. The scoping review demonstrated a paucity of evidence giving voice to the experience of nursing and nurse leadership in implementing innovative models of integrated care. Examination of the themes highlighted the complexity of the nursing role within implementation of integrated working, identifying both opportunities and challenges, but also drew attention to the tacit attributes that are important in the delivery and maintenance of integrated systems.

Although this scoping review focused on examining nurses experience of implementing innovative integrated models within a UK context the findings may have global interest in identifying barriers and facilitators in adaption of integrated nursing care models to new context. Further research is required considering how complex inter-organisational relationships impact upon delivery – especially where micro and meso level integration requires delivery that challenges traditional organisational and professional boundaries, whilst existing within established organisational level (macro) governance structures.

Research funding

None

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PRISMA Flow Diagram for the scoping review process

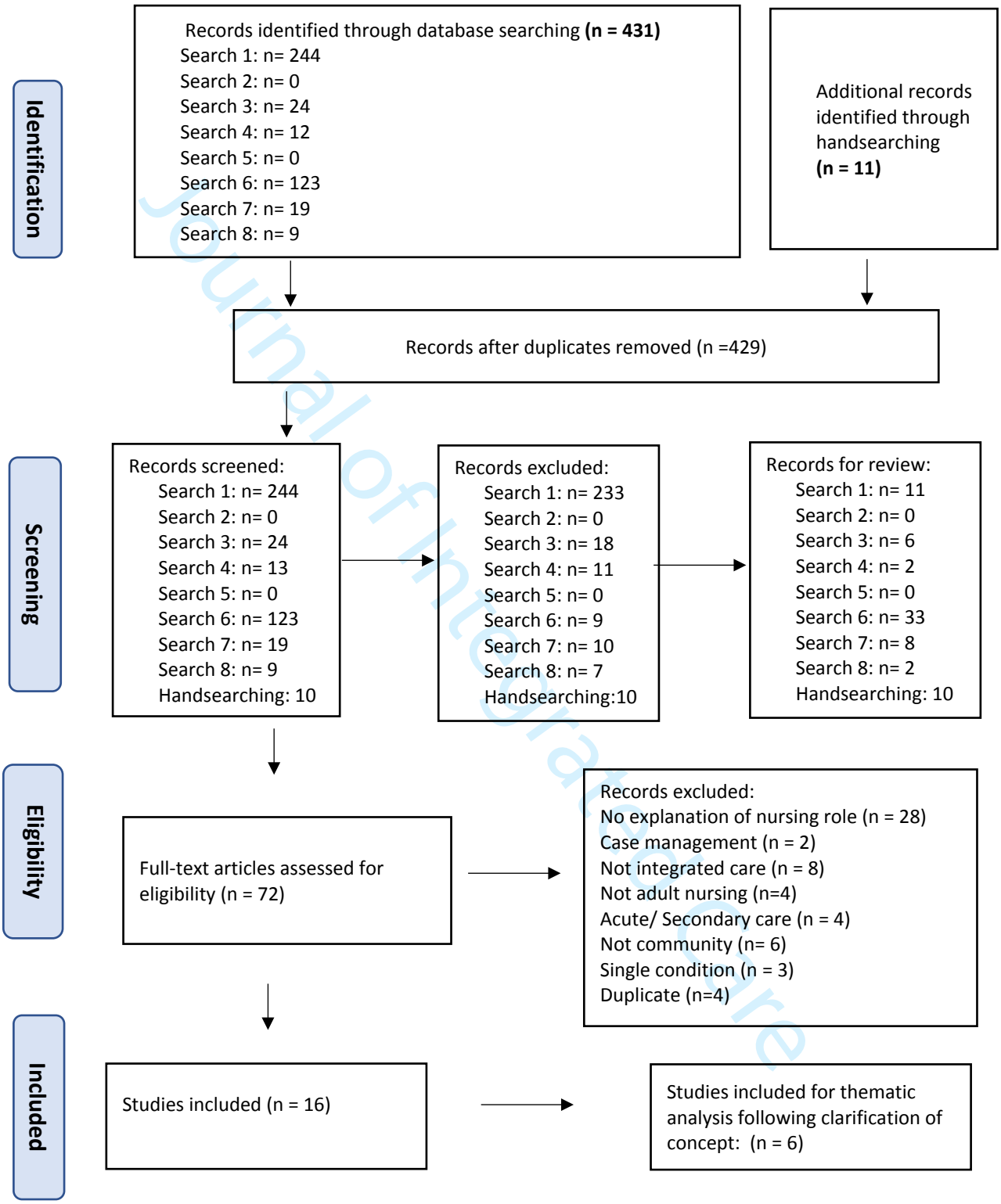

Figure 1

Distribution of categories and themes

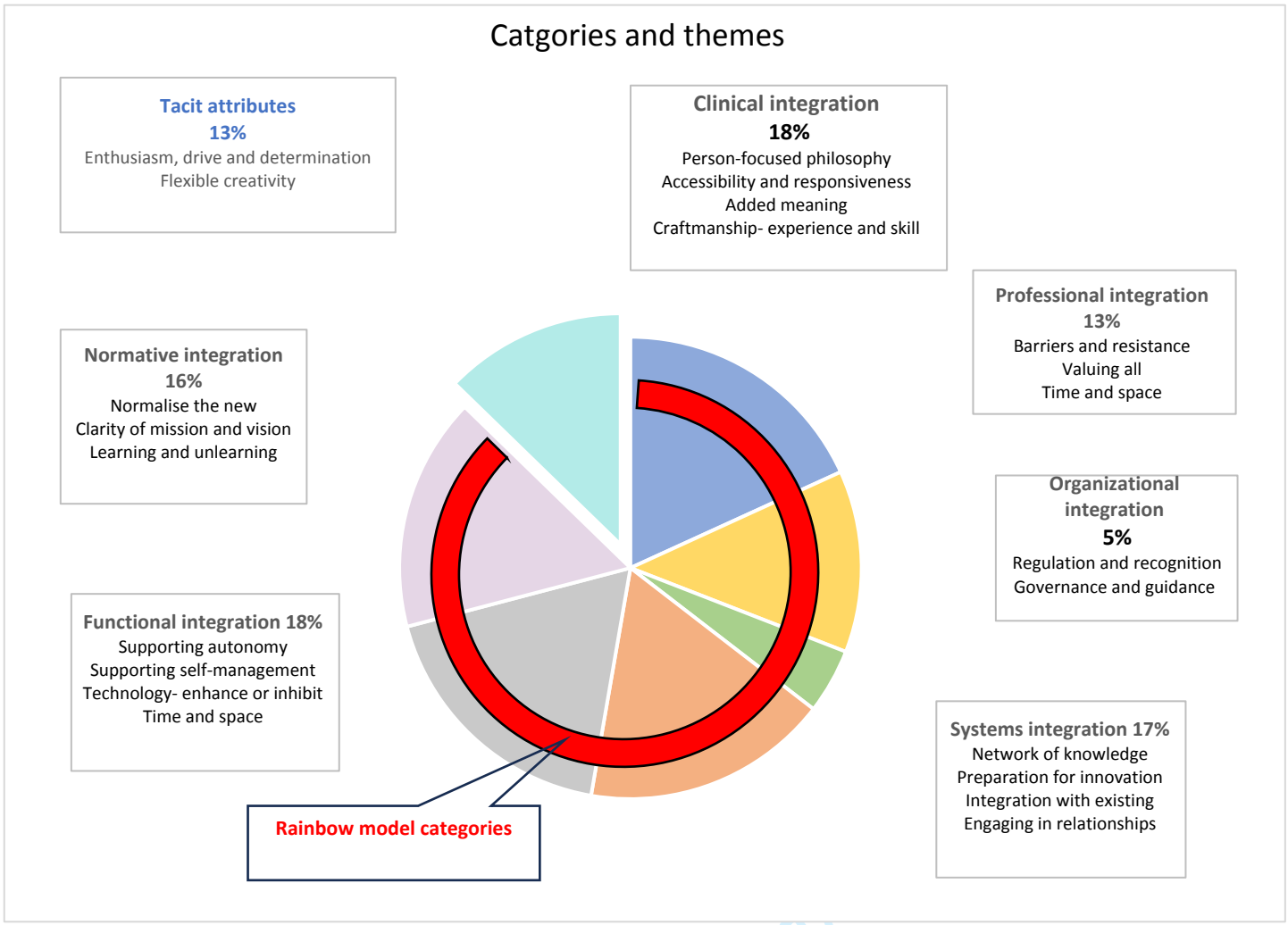

Figure 2

Table ii- Scoping review data chart

I.D.	Author(s) and date	Title	Type of evidence/ Methodology	Participant/ population	Sample size	Concept	Context	Intervention type	Key findings/ Outcomes
1.66	(Parsons and Wade, 2023)	Making a success of a place-based team	Discussion-case study	Community and district nursing teams	N/A (discussion)	Place-based, Leadership	UK, South Warwickshire Community services	Inter-agency place-based initiative pilot	Commitment, drive and enthusiasm of key personnel. Need for time and resources to support implementation
3.9	(Hamm and Glyn-Jones, 2019)	Implementing an adapted Buurtzorg model in an inner-city NHS trust	Reflection on pilot study	Community nursing District nursing	N/A (discussion)	Neighbourhood nursing model	UK, London Community services	'Test and learn' pilot study of Neighbourhood Nursing-adaptation of Buurtzorg	Workforce selection and development. Enthusiasm, motivation and leading change. Scalability, concerns for diffusion of vision.
3.13	(Leask *et al.*, 2020)	Acceptability of delivering an adapted Buurtzorg model in the Scottish care context	Qualitative semi-structured interviews/ case study	Community nursing Support worker	9 participants from 2 self-manging teams	Integrated Neighbourhood Care model	UK, Scotland Community services	Case study exploration of acceptability of adapting and implementing Buurtzorg principles	Challenges of self-management, benefits of co-location, frameworks to support task allocation, need for support structures
6.2	(Uittenbroek *et al.*, 2018)	Experiences of case managers in providing person-centered and integrated care based on the Chronic Care Model: A qualitative study on embrace	Qualitative Grounded theory	District nursing, Social work GP's	11 participants District nurse-n=6 Social worker-n=5	Embrace, Integrated care	Netherlands Community services	Person-cantered and integrated care service for community living older adults	Collaborative working, role as patient advocate, challenges in combining roles

7.5	(Downes and Pemberton, 2009)	Developing a community matron service: a neighbour-hood model.	Discussion/ reflection	Community nursing, Community matron	N/A (reflection)	Case load management of integrated care, virtual wards	UK, Blackburn Community	Brief discussion of the role of community matrons in leading integrated care	Role of community matrons in working collaboratively across services, technology to support
HS8	(Nandram and Koster, 2014)	Organizational innovation and integrated care: lessons from Buurtzorg	Case study, Grounded theory	District nursing	38 participants	Buurtzorg model	Netherlands Community	Case study describing organisational components of the Buurtzorg model	Combined strategies focused on structure, communication and technology to facilitate integration in community services- holistic approach to deliver holistic care

Table ii