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Safe Caseloads for Adult Community Nursing Services – An Updated Review of the Evidence

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Abbreviations

ALB	Arm's Length Bodies
CPD	Continuing Professional Development
CQC	Care Quality Commission
DCN	District Community Nurs(e)ing
DH	Department of Health
FTE	Fulltime Equivalent
GP	General Practice/ Practitioner
HEE	Health Education England
HEI	Higher Education Institution
HV	Health Visiting/ Visitor
IOM	Institute of Medicine
IT	Information Technology
LETB	Local Education Training Boards
NHS	National Health Service
NHSE	National Health Service England
NHSI	National Health Service Improvement
NICE	The National Institute for Health and Care Excellence
NMC	Nursing and Midwifery Council
NQB	National Quality Board
PICo	Population Phenomenon of Interest and Context
QNI	Queen's Nursing Institute
RCN	Royal College of Nursing
RGN	Registered General Nurse
TDA	Training and Development Agency
UK	United Kingdom
WTE	Whole Time Equivalent

Acknowledgements

Executive Summary

Purpose

The purpose of this commissioned literature review was to address the core question" What evidence is available to inform the development of guidance on safe caseloads in district and community nursing adult services?". It builds upon the work by Fields and Brett (2015) to provide a contemporary critique of the current state of knowledge, gaps and challenges associated with community and district nursing academic papers, policy and grey literature in relation to managing safer caseloads in community adult nursing settings.

Methods

The Hagen-Zanker and Mallett (2013) 'evidence-focused literature review' framework was used because findings from the previous review by Fields & Brett (2015) noted an overall paucity in evidence. The framework allows for flexibility in the retrieval and analysis of grey literature but also provides the opportunity to draw on the experience of key experts in the field as an additional lens through which to consider the findings. No form of systematic quality assessment was applied to papers retrieved due to the scarcity of evidence and to avoid inconsistences if the same criteria were applied to policy and guidance documents.

Findings

Conclusions from this review do not answer the core question relating to a safe community nursing caseload. The only paper identified that directly addressed community nursing safe caseloads merely demonstrated the complexity of creating, maintaining and predicting safe caseloads in district nursing (QNI 2016). A number of caseload management tools exist, both within the community nursing context and beyond but these tend to be localised and context specific and their effectiveness is yet to be evidenced. Evidence from this review suggests that community nursing environments vary considerably across populations and locales and that continued development of such tools could be more beneficial than searches for more generalizable offerings, which may never be able to take account of the wider complexity across healthcare settings and environments. Much of community nursing work involves in-the-moment autonomous decision-making and a good deal of emotional input that cannot easily be quantified, measured or predicted, it remains to be seen whether it is entirely possible to capture both the complete complexity and qualitative nature of the work. Furthermore, the review found no evidence of published work that took a whole systems approach to understanding the workload demands of the multi-disciplinary team within the community context.

Implications for research

The lack of advanced evidence means that further research is needed to identify the optimum relationship between community nurse staffing and caseload assignment levels. Areas for particular focus should include community nursing costs, outcomes of care and the impact on staff wellbeing around job satisfaction, recruitment and retention. It is also important to understand the role and contribution nurses make to the wider multidisciplinary team in the community context given the focus on integrated care delivery in the Five Year Forward View.

Research needs to be mindful of the multifaceted considerations that should be accounted for when looking at the community nursing workforce. Suggestions for taking forward such research include, but are not necessarily limited to; making sure the right skills and competencies are matched to patients' needs; finding out how care and care outcomes are measured in the community context at a variety of levels from societal to individual level; considering the influences that have an effect on care outcomes because these are multifarious and context dependent; exploring what methods of investigation can successfully enable differing contexts and multifaceted considerations to be explored in terms of optimising outcomes and resources; capturing the value of individual, team and organisational nursing contributions, including qualitative data that recognises the worth of the emotional labour of community

nursing; and determining whether there is a positive cost to benefit ratio with better nurse staffing levels (Griffiths et al 2016).

Implications for practice

Short of appropriate guidance to inform optimum caseloads in adult community nursing, the notion of safety in community and district nursing caseloads is still far from reach. Given the multifaceted considerations that need to be taken into account if effective solutions are to emerge for adult community nursing settings, a whole system sustainable approach to workforce planning with greater use of forecasting and scenario planning that is aligned with costings is proposed. A whole system approach enables key stakeholders to be involved in agreeing the main parameters of scenarios on the future shape of services, which is key to being able to consider all contexts and multifarious and shifting environments and perspectives. Key stakeholders would be those who employ health care workers, who can participate in forward, progressive thinking on workforce skills and competencies, and who can contribute to workforce analysis. Other essential stakeholder groups, currently not effectively involved, are the professional regulators and associations, who could contribute significantly to improved data collation and analysis. The whole system process, and its outcomes, allows for a transparent understanding of 'shortage' scenario outcomes and the 'actual' funding-constrained outcomes for national projections and national plans.

Recommendations

Although the level and quality of evidence from the literature review is weak, we have made recommendations given the significance and rationale of the topic under consideration. These have been separated into strategic and operational principles and divided up to try and make explicit the leader/primary bodies relevant to each. However, in reality there is overlap – many of the recommendations require action or have implications for several bodies, and some will require a more multi-level consideration across the health service if they are to be enacted. It is also important to consider these recommendations within a whole system and we would advocate that workforce guidance should be inclusive of all professions delivering an integrated multidisciplinary care model in community settings.

We suggest that consideration be given to:

Strategic Principles
Recommendations for National Quality Board and NHS Improvement

1. **Provide a clear holistic definition and delineation of the concept of safety** applied to managing caseloads in adult community nursing settings incorporating a model that encompasses
   - Those who work in health care.
   - Those who receive health care or have a stake in its availability.
   - The infrastructure of systems for therapeutic interventions (health care delivery processes).
   - The methods for feedback and continuous improvement.

2. **Develop a whole system approach to workforce planning**

National-local workforce policy and planning gaps be addressed through a whole system approach with greater use of forecasting and scenario planning that is aligned with costings. This would enable a more inclusive approach connecting key stakeholders at local, regional and national level to agree the main parameters of scenarios on the future shape of services, which is key to considering all contexts, multifarious shifting environments and perspectives. It might also provide comparative analysis of district nursing staffing configurations with staffing stability indices.

3. Develop a national classification system for staffing configurations

National comparative descriptive analysis of DCN staffing configurations (using a classification system) with patient caseloads - classified by types of nursing service / level of dependency on nursing service, followed by comparative analysis with patient processes and outcome.

4. Develop national markers and metrics as indicators of sufficient workforce

Markers and metrics as indicators of sufficient workforce numbers would provide evidence of when things have improved and the positive impact of these changes within the whole system. This would be achieved through:

i. Making the most of the tools and approaches that currently exist, invest in their development, and test their reliability and validity.
ii. Developing a metric for caseload management to provide evidence that would enable decisions to be made about the best use of resources at national and local level
iii. Developing a set of nurse sensitive outcome measures in the community to evaluate staffing sufficiency
iv. Using 'canary markers' (incomplete care, missed breaks) to provide an earlier warning system when staffing levels are becoming too stretched.
v. Quantifying unmet need because DCNs have no means of limiting their caseload currently. Commissioners need to start thinking differently about how to meet unmet need both in the short and longer term

Recommendations for HEE and Council of Deans for Health

5. Develop a national strategy that addresses workforce retention

We recommend consideration be given to strategic principles that hold on to new and existing staff through offering attractive structured career pathway development linked to Magnet principles.

6. Investment in strategies to increase the supply, education and training of district and community nurses

To redress the balance of supply, demand and capacity within the system involving collaboration with policy makers, commissioners, health care providers, and HEIs. This would involve review at local, regional and national level in the development of pre-qualifying, post-qualifying and mandatory interprofessional training across the healthcare sector and development of a system that addresses the national-local workforce planning gaps.

Recommendations for Research Funding Bodies

7. Fund economic analysis to understand effectiveness of DCN services

Fund economic evaluation research that promotes clearer understanding of effectiveness and cost-effectiveness of community nursing services, and the impact of specialist skills on patient experience and patient outcomes.

8. Fund workforce policy impact research

Consideration be given to funding research into impact of workforce policies on front line practice (patient and staff outcomes) and the cost consequences of implementing safe staffing policies.

9. Funding a national research programme to address these recommended priorities for further evidence:

i. making sure the right skills and competencies are matched to patients' needs;
ii. finding out how care and care outcomes are measured in the community context at a variety of levels from societal to individual level; considering the influences that have an effect on care outcomes because these are multifarious and context dependent;
iii. exploring what methods of investigation can successfully enable differing contexts and multifaceted considerations to be explored in terms of optimising outcomes and resources;
iv. capturing the value of individual, team and organisational nursing contributions, including qualitative data that recognises the worth of the emotional labour of community nursing; and
v. determining whether there is a positive cost to benefit ratio with better nurse staffing levels.

Recommendations for Commissioners

10. **Develop principles that focus on what 'good' looks like in community nursing**: e.g. staff well-being (sickness absence, burnout etc.) in the community in relation to caseloads.

11. **Develop and identify patient outcome measures, patient reported outcome measures (PROMS) and patient reported experience measures (PREMs)** that are meaningful in community context for different client groups.

12. **Understand and capture clinical outcomes**, which can be easily understood by commissioners and describe what is possible to be delivered in the community. Having one clinical outcome which is legitimately worded as 'prevented hospital admission' for most patients seen in the community would send a message about how many interventions prevent admission.

Operational Principles

Recommendations for Community Service Providers
13. Develop standardised data collection systems

Standardised data collection systems are sufficiently comprehensive to incorporate the totality of the work undertaken in the DCN service so that it reflects demand- and patient, family and carer need.

14. Use evidence based processes for workforce planning at a local level

While we are aware of the limited evidence available to support the effectiveness of workforce planning tools, we recommend that healthcare organisations use evidence based processes for managing staff deployment that take account of supply, demand and capacity across the whole system. We recommend that healthcare providers measure the context of care as an integral part of their quality assurance processes.

15. **Health care providers reduce unnecessary burden**

By avoiding duplication of effort through non clinical administration systems and providing appropriate administration support and access to supportive and integrative technologies that promote effective communication across multidisciplinary teams.

16. **Create good learning environments**

That offer mentorship, preceptorship, and supervision to less experienced staff.

1. Background

1.1 Policy Context

In recent years there has been an increasing UK-wide policy focus on moving more care from hospitals into the community (Department of Health 2008; NHS England, 2014; NHS Scotland, 2013; Department of Health, Social Services and Public Safety (Northern Ireland), 2011; Welsh Assembly Government, 2010). Publication of the *Five year forward view* NHS (2014) and Lord Carter's review of efficiency in hospitals which show how large savings can be made by the NHS (DH 2015), have emphasised the need for the efficient use of resources to ensure sustainability of safe staffing decisions. In addition, the Carter report has advocated for the adoption of integrated IT processes in order to; use work loading tools to calculate care hours per patient day (CHPPD), manage staff deployment, manage patient transfers, measurement of quality and efficiency that is essential for effective care delivery, establishment of cooperative arrangements in order to deliver sustainable, safe, effective and efficient staffing that improve healthcare outcomes for patients (Carter 2016).

Yet policy commentators at the Kings Fund observe that community services have remained neglected and poorly understood, and the commissioning of these services has been hampered by their complex and diverse nature. In the services themselves there has been a loss of direction and staff from what is already an ageing workforce (Foot et al, 2014; Maybin et al, 2016). Commentators have argued that mergers and reorganisations have left hospitals and primary care providers confused about who to refer to, while community services often do not respond quickly enough when patients are discharged (Kings Fund 2014). Community health services have around 100 million patient contacts each year, and account for approximately £10 billion of the NHS budget, covering a huge range of essential services and the demand is rising (Lafond et al 2014).

Recent government sponsored enquiries in England have highlighted the role of poor staffing levels in deficits in care leading to adverse outcomes and poor patient experiences in hospital settings (Francis 2010, Berwick 2013, Keogh 2013). In acute NHS Trusts across England, significant progress has been made in relation to ward based staffing levels, with numbers increasing from 2013 following the implementation of policies aimed at ensuring safe staffing following the Francis Inquiry. By contrast in the past decade there has been only a 0.6% increase in the total number of nurses working in the community, and a significant reduction in the number of district nurses and nurses with community specialist qualifications. In December 2014, there were 1264 community matrons and 5644 district nurses (full time equivalent) and community specialists working in the community compared with 1545 community matrons and 7979 district nurses in December 2009 (Health and Social Care Information Centre), and more work is being undertaken by nursing assistants (QNI 2014, 2016).

The district nursing workforce is ageing with 35% of district/community nurses aged 50 and over (Ball and Phillipou, 2014), yet student numbers on programmes leading to a recordable Nursing and Midwifery Council (NMC) specialist practitioner qualification in district nursing have been decreasing since 1999. Ball and Phillipou (2014) report the number of district nurses, has fallen by about 40% in the past 15 years (Figure 1). This has resulted in a diluted skill mix and lack of senior experienced community district nurses able to offer team leadership and specialist nursing expertise to more junior and less experienced staff (RCN 2010, 2013, 2014; McCulloch and Gilmour; 2015; QNI 2016, 2014 Maybin et al, 2016). There is evidence of some increased and stabilised numbers of registered nurses and health care assistants providing nursing care in the home as part of district nursing services, increased numbers in short-term step up and step down services such as rapid response, community matrons, frailty services and in general practice as practice nurses also providing nursing care for

older people in the population (Drennan, 2014). There remains the issue of fragmentation of provision which makes working out how many nurses you need to provide a 24 hour 365-day service for older adults with long term conditions and palliative care needs even more complicated. Further workforce challenges arise from cuts in funding for education and training of current and future workforce. NHS England states "*We can design innovative new care models, but they simply won't become a reality unless we have a workforce with the right numbers, skills, values and behaviours to deliver it.*" (Five Year Forward View, NHS 2014: 29-30). With the constant evolution of treatments and technology, as well as rapidly changing roles for many healthcare staff, ongoing education and training is an essential foundation for safe, effective care. The Council of Deans for Health (2016) identify that the cuts to the LETBs' Continuing Professional Development (CPD) budgets are at odds with the Government's vision, both to transform the workforce and to create more placement capacity to meet the aspiration of expanding student places.

Figure 1: FTE Qualified Nursing, Midwifery, Health Visiting Staff and NHS Hospital and Community Services (HSCIC 2014)

FTE qualified nursing, midwifery and HV staff, NHS hospital and community services, May 2010- Sept 2014 (HSCIC, 2014)
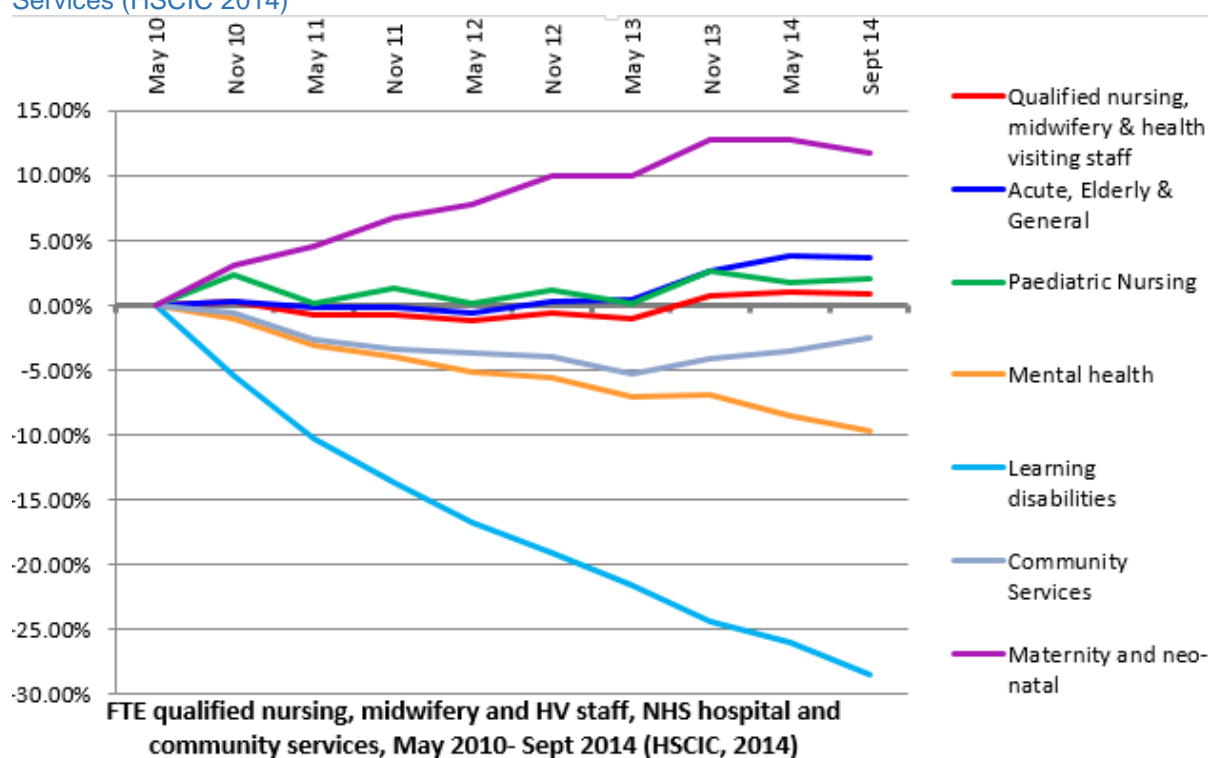
The QNI commentary report (2016) emphasises that it is vital to understand what constitutes a safe caseload for District Nursing team members in order to ensure that community nursing services are safe, effective and provide a high quality of patient experience. However, the complexity in creating, maintaining and predicting caseloads that are safe for patients and staff is difficult when services act like a 'sponge', absorbing additional workload in an environment without the physical limits of a defined number of beds (QNI 2016, Maybin et al, 2016, Jackson et al 2014). The model of commissioning community services is activity based and does not consider shortfalls in the required workforce. Providers receive a fixed sum to deliver services irrespective of significant changes in demand for community care (Foot et al, 2014). Modelling demand for adult community nursing services therefore is important not only for operating current services, but crucially to plan and commission services for the future, taking elements into account such as population health, demographics and the opportunity for remote monitoring and supported self-care (QNI 2016, Ball et al 2014, Jackson et al 2015, Leary 2014, 2011).

1.1.2 The History of Safe Staffing Guidance 2013 Onwards

In 2015 the National Institute for Health and Care Excellence (NICE) announced that it was suspending research on safe staffing levels until a wider programme of review of sustainable safe staffing led by NHS England and NHS Improvement has been completed. In October of the same year, Monitor, the Training and Development Agency (TDA), Care Quality Commission (CQC), NHS England and NICE published a letter to all NHS provider trusts, to address the concerns that recent messages to the system on the need to intensify efforts to the meet the financial challenge were seen as contradictory to the messages on safe staffing. In this letter it was outlined how the five Arm's Length Bodies (ALBs) would continue to work with and support trusts to secure both safe staffing and greater efficiency and that this would be delivered through two programmes:

In phase one of the national Safe Sustainable Staffing Guidance the focus of the refreshed National Quality Board (NQB) safe staffing guidance is to ensure that the guidance will support NHS decision makers to improve efficiency while also delivering the best possible quality within available resources; the guidance will include messages on safely and sustainably managing staff reductions and gaps in staff availability, and will have a focus on deliverability. The updated NQB safe staffing guidance will become a front end document for individual care setting staffing guidance to be developed and published to the system, which will be delivered in Phase two of the national Safe Sustainable Staffing Guidance programme during 2016. This will focus on the development and publication of specialist care setting guidance for safe and sustainable staffing for the following settings:

•   Urgent and Emergency Care
•   Mental Health
•   Learning Disability
•   Primary and Community care
•   Maternity care
•   Children's care
•   Inpatient wards for adults in acute hospitals
•   Care Home settings

The Safe Caseloads in Community and Primary Care Group, established by NHS Improvement, chaired by the Chief Executive of the Queens Nursing Institute, is responsible for creating and publishing staffing guidance for Primary and Community Care settings through the actions identified in Figure 2. The scope of the group is to collaborate across its constituent membership to deliver a set of staffing guidance that will provide health care professionals with the guiding principles and tools (where available) to ensure their care setting is sufficiently staffed to meet the demands placed upon it. The programme will consider and use a range of enabling functions in this delivery including;
        i) to identify and review best available evidence on safe, sustainable staffing models;
        ii) to be multi-disciplinary in approach to staffing;
        iii) be outcomes focused;
        iv) complete an economic impact assessment on proposed staffing models and guidance;
        v) test methodology for staffing tools and staffing models with the appropriate experts/ focus groups.

A particular strength of this group is that membership is diverse and drawn from expert reference groups that have worked with NICE to provide initial advice on its scoping of safe staffing in adult community settings, a digital workforce technology initiative run by the QNI to celebrate innovations in workforce modelling, an NHS England working group established to advise on Transforming Primary and Community Nursing Care, and a QNI led group brought together in September 2015 to considered

wider service delivery in the community, including community children's, mental health and learning disability services, meeting with the Chief Nursing Officer for England.

Figure 2: Purpose of the NHSI Safe Caseloads in Community and Primary Care Working Group

- Ensure the work of the Safe Caseloads in Community and Primary Care Group aligns to the revised NQB Safe Staffing Guidance; how to ensure the right people, with the right skills, are in the right place at the right time.
- Develop and publish guidance for safe and sustainable staffing in Community and Primary Care settings.
- Take into account the Department of Health policy work on staffing guidance being developed for the care home sector.
- Work collaboratively with other groups (via the chair and professional lead) to ensure a joined up approach to the development of the staffing guidance and approaches to implementation following publication.
- Ensure that priorities, costs and benefits within the staffing guidance are assessed and that there is consistency with other national policy on staffing where available.
- Identify strategic and directional risks and issues and raise with the project board where these are not locally resolvable.
- Ensure that the public, patients and their families, and wider stakeholders are engaged appropriately and consistently in the development of the staffing guidance

In order to set the terms for this literature review and understand the context it is important firstly to revisit and review the findings from the NICE safe staffing for adult nursing care in community settings (2015) unpublished document.

1.1.3 Recap of the findings from the NICE Safe Staffing for Adult Nursing Care in Community Settings (2015)

Fields and Brett (2015) reviewed evidence published from 2006-2014 on "Safe staffing for nursing in community care settings for over 18s". An adult community nursing reference group of 20 leading experts brought together by NICE set about defining which services to focus on, for which age groups. The scope of the review (and for subsequent guidance) was agreed as the nursing establishment in community care settings for people over the age of 18, funded to provide community nursing care across a defined geographical location in people's homes, community clinics and any other setting in which care is delivered for that defined age group. It included:
- Registered nurses providing care for over 18s in the community; for example, district nurses, community matrons and nurses providing specialist care for specific conditions or diseases
- non-registered nursing staff providing care for over 18s in the community; for example, healthcare assistants and assistant practitioners.

The review and guidance process did not progress to review by an expert panel. It was therefore unable to draw firm conclusions about approaches that should be used for assessing and determining nursing staff requirements or skill mix nor the outcomes associated with safe staffing levels in community adult nursing settings. Added to this, the review was limited to published articles, and thus did not include 'grey' literature. The studies included were assessed as being of moderate to low quality, and largely observational. The review identified key gaps in evidence and made recommendations for commissioning research that would provide insight into the multidimensional complexity of community nursing care provision (Table 1).

Since the release of the NICE review, Griffiths et al (2016) have published a paper which addresses the important issue of the research methods used to study nurse staffing levels and the link to quality

of patient care experience and outcomes. They raise a potential problem with bias from the methods used in published nurse staffing studies which have primarily used observational data rather than more robust empirical methods such as randomised control trials. They conclude therefore that cause and effect between nursing care with quality and outcomes of that care cannot be established (Welton, 2016, Griffiths et al., 2011; 2016). There are a number of potential issues with bias such as unobserved variables that can influence and separately explain the findings associated with nursing care. Welton (2016) reports that adequate staffing is a necessary but insufficient condition for safe, high quality and cost effective nursing care because it is important to be clear at what level this is being measured-individual, team, organisational or beyond. This will be explored later in this review section 4 where enablers and inhibitors for effective workforce planning are presented.

Table 1: showing NICE Evidence Review (Fields & Brett 2015) questions and supporting peer reviewed evidence

Review question 1: What approaches for identifying and determining staffing requirements and/or skill mix, including toolkits, are effective in community settings for adult nursing and how often should they be used?
Evidence: Jones & Russell 2007; Ray et al 2011
Review question 2: What outcomes are associated with safe staffing for adults nursing in community settings?
Evidence: Fukui et al. 2014; Hurst 2006; Luo et al 2012
Review question 3: What patient/service user/carer factors affect nursing staff requirements for adults in community settings?
Evidence: No evidence
Review questions 4: What environmental factors affect nursing staff requirements for adults in community settings?
Evidence: No evidence
Review question 5: What staffing factors affect nursing staff requirements for adults in community settings?
Evidence: No evidence
Review questions 6: What organisational factors affect nursing staff requirements for adults in community settings at a team or service level?
Evidence: No evidence
Review question 7: What nursing activities should be considered when determining safe staffing requirements for nursing for over 18s in community care settings?
Evidence: Axelrod et al 2010; Jackson et al 2013; Jackson et al 2015; James et al 2009; Kirby & Hurst 2014; Leary et al 2008; Leary & Anionwu 2014; Newbury et al 2008; Pender & Spilsbury 2014; Sargent et al 2007; Unsworth et al 2008

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1.2 Review Aim and Questions

1.2.1 Aim

The aim of this literature review is to provide an evidence base to inform the development of guidance for safe and sustainable staffing in community and primary care settings. It builds upon the work by Fields and Brett (2015) to provide a contemporary critique of the current state of knowledge, gaps and challenges associated with community and district nursing academic papers, policy and grey literature in relation to managing safer caseloads in community adult nursing settings.

1.2.2 Review Questions

Since the NICE Safe Staffing evidence review was published, the Queens Nursing Institute (QNI) released its report "Understanding safe caseloads in the District Nursing service" (2016: 8) advocating the use of the term "safe caseloads" as opposed to "safe staffing" to "*reflect a more comprehensive and inclusive approach to nurse workforce planning and deployment in the community setting, which aims to provide assurance that the right nurse, with the right skills, will be in the right place, at the right time delivering high quality care.*"

The current literature review therefore aims to present a synthesis of evidence uncovered related to the working definition of adult community nursing safe caseloads drawing on international and national examples where found. Results are presented under broad themes synthesized from the available evidence. The methodology and eight review questions were agreed with project commissioners building on the scoping guidance used by Fields and Brett (2015) and the questions used approved by a group of expert researchers, policy leaders and workforce modellers familiar with previous published work in the field (Figure 3).

Figure 3: 2016 Safer Caseload Management in Adult Community Settings Review Questions

1. How is the concept of safety when applied to nursing caseloads defined in the literature?

2. What gaps and challenges have been identified in managing staff reductions and gaps in the workforce?

3. What lessons can be learned from other fields of practice outside of nursing and applied to create new insights and approaches to calculating safe nursing caseloads?

4. What new approaches for assessing and determining safe nursing caseloads and/or skill mix, including toolkits, have been published and how often they should be used?

    4.1. What evidence is available on the reliability and/or validity of any identified approach or toolkits?

5. 5.What outcomes are associated with safe nursing caseloads and staffing for adult nursing care in community settings?

    5.1. Do nursing staffing levels, ratios of nursing staff per head of the population, average or minimum caseloads or skill mix affect outcomes?

    5.2. Do dashboard metrics provide useful measures that systemically evidence changes and improvements in safe nursing caseloads and staffing?

    5.3. What outcomes should be used as indicators of safe nursing caseloads and staffing?

6. What care activities should be considered when determining safe nursing caseloads and staffing requirements for adults in community settings?

    6.1. What activities are currently carried out by nursing staff?

    6.2. Do the activities carried out by registered nurses and non-registered nursing support staff (such as healthcare assistants, healthcare support workers and nursing assistants) differ?

    6.3. How much time is needed for each activity, and does this differ according to the setting in which care is delivered (for example, a person's home or a community clinic)?

    6.4. Are activities that are carried out by nursing staff associated with outcomes?

7. What patient/service user/carer factors, staffing and environmental factors affect safe nursing caseloads and staff requirements for adults in community settings?

8. What organisational factors affect safe nursing caseloads and staff requirements for adults in community settings at a team or service level?

2. Evidence Focused Literature Review Methods

The focused literature review was accomplished using the Hagen-Zanker and Mallett (2013) 'evidence-focused literature review' framework. This approach was chosen because findings from the previous review by Fields & Brett (2015) noted an overall paucity in evidence. The framework used not only

allows for flexibility in the retrieval and analysis of grey literature but also provides the opportunity to draw on the experience of key experts in the field as an additional lens through which the findings would be considered.

2.1 Search strategy

The Population Phenomenon of Interest and Context (PICo) framework (Butler et al 2016) was used to identify the key words and relevant search terms for the review (Table 2).

Table 2: Identifying key terms

Population	Community nurses
	District nurses
I (Phenomenon of) Interest	Safe caseloads
	Caseload management
	Caseload thresholds
Context	Community nursing

The search terms used were district nursing, community nursing safe caseload and caseload thresholds controlled for adult service contexts. A date restriction of 2010 –September 2016 was applied in the first instance to the search to identify relatively current evidence on safe caseloads in community, given the numerous structural changes that community nursing has undergone since 2008. This was later expanded to take account of earlier work that was recurrently mentioned in the reference list of the evidence that met the screening criteria.

The review involved a three track search strategy including:

- Track 1 academic literature search;
- Track 2 snowballing; and
- Track 3 grey literature capture

2.2 Academic literature search

The first track was focused on identifying evidence published in academic journals. Table 3 shows the four searches undertaken for academic literature. The extrapolated catalogues that are a feature of the LibrarySearch[1] database are listed in Appendix 1. The terms used for each search are listed in the third column of Table 3. When screening papers, the reviewer looked for specific reference to caseload management and/ or caseload safety within the paper, and also controlled for adult service contexts. International papers were included for consideration, as were papers that discussed professions outside of community nursing, resulting in perspectives from social work, paediatric rehabilitation therapy, the probation and court services.

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[1] *LibrarySearch is a comprehensive sourcing database that allows for searching across a range of resources to identify items held within and beyond academic institutions.*

Table 3: Search Strategy for academic literature

Search No.	Database/ s	Search Terms	Dates	Hits	Relevant
1	LibrarySearch (see Table 3)	Caseload management & community/ district nursing	From 2010	455	22
2	LibrarySearch (see Table 3)	Safe caseloads & community/ district nursing	From 2010	28	3(1) (2 existing from search 1)
3	LibrarySearch (see Table 3)	Caseload thresholds & community/ district nursing	From 2010	20	0
4	NICE Evidence Search	Community Nurs* & caseload saf*	From 2010	31	6 (3) (3 existing from searches 1-3)

Track 2 Snowballing

The second track involved working with an expert panel of leading academics, policy leaders and researchers in the field using a Delphi survey to establish whether there was any further experiential evidence that might help to shape the recommendations and signpost the reviewers to other fields of practice where evidence may be transferable and useful and excerpts have been integrated into this report under the broad themes distilled from the synthesis of findings.

Track 3 Grey Literature Capture

The third track involved a search using the National Institute for Care and Excellence (NICE) evidence search engine to identify grey literature with characteristics relevant to safe caseloads and/ or caseload management in the adult community nursing workforce. This included looking for evidence from other nursing fields such as child and mental health settings. Building on evidence identified, a further search was conducted targeting specific institutional websites including the Department of Health, The Royal College of Nursing, The Queen's Nursing Institute, The King's Fund and the World Health Organisation, to identify relevant evidence potentially missed through the NICE evidence search engine. This search generated only two new references both of which were included in the review. In this process we also asked the expert panel to identify evidence of unpublished studies to get a sense of which literature has been important and influential in the field, not always published in high impact peer-reviewed journals, as well as evidence from other non-nursing fields that may provide transferable examples. The panel provided some references but these were also identified through the NICE evidence search engine. Secondly, a national call for evidence was sent out to a wide variety of organisations (Table 4) with a deadline for submission followed by a reminder via email of the opportunity to submit evidence.

Table 4: Organisations approached for grey literature

Organisation
• Association of District Nurse Educators
• Care Quality Commission
• Council of Deans for Health
• Cumberland Initiative
• Executive Nursing Network
• Foundation of Nursing Studies
• International Community Health Nursing Research Network
• IT Tech Companies providing NHS software, accessed through QNI
• Library scan for PhDs applied to nursing-safe staffing-skill mix-caseloads
• in fields of Mathematics, Engineering, Computing, Nursing, Medicine, Midwifery National District Nurses Network
• Nursing Midwifery Council
• Public Health England
• Queens Nursing Institute (Scotland/England)
• Royal College of Nursing (Scotland/England)
• Call for evidence through Twitter to academic journals, WeCommunities, Global Villages, NHS Academy of Fab Stuff

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2.3 Screening Criteria

To qualify for eligibility to be included in the evidence review, full texts of papers retrieved had to meet at least one of the criteria in table 5.

Table 5: Screening criteria for papers included in the review

Inclusion	Exclusion
• Reported on safe caseloads in community adult nursing • Reported on or provided guidance on staffing levels for community adult nursing and related outcomes • Reported on workload management and workforce planning for community adult nursing • Reported on or provided guidance on commissioning community nursing services • Reported the skills mix in community teams and related outcomes	• Focused on specific conditions e.g. management of asthma in community • Reported on outcomes that were task based e.g. insulin administration • Reported on community nursing for children and young people • Focused on community nursing services based in GP surgeries

2.4 Quality Assessment and Outcomes

No form of quality assessment was applied to evidence retrieved due to the scarcity of evidence and to avoid inconsistences if the same criteria were applied to policy and guidance documents.

2.5 Operational Definitions

Nursing team: the group of practitioners who are part of the nursing establishment direct nursing care in community care settings for over 18s including:

- *Registered nurses* for example, district nurses, community matrons and community nurses providing specialist care for specific conditions or diseases
- *Unregistered* nursing staff such as healthcare assistants or assistant practitioner

- *Allied health professionals* and other services such as Marie Curie and Hospice at Home services, rehabilitation services and rapid response.

Community Setting: People's homes, community clinics and any other setting in which care is delivered by the community nursing team for over 18s.

Nursing establishment: the number of posts for registered and non-registered nursing staff funded to provide community nursing care across a defined geographical location.

Nurse staffing: the size and skill mix of the nursing team in the community care setting, relative to the number of patients cared for. Expressed as nursing hours per patient, nurse-to-patient ratios or an equivalent measure (for example, district nurses-to-population ratio).

District Nurse: A qualified and registered nurse who has undertaken further training and education to become a specialist community practitioner (QNI 2015b).

Community Nurse: A registered nurse from any branch of nursing, within any speciality, working in the community, whether that is in someone's home, in local health facilities such as a GP surgery, in community residential settings, or as outreach staff from hospitals. Our definition is also intended to encompass registered nurses working for different types of employer, not just the four national health services (RCN 2010b).

Caseload: A caseload refers to the patients served and all the activities involved in supporting people requiring care from the District/Community Nursing (DCN) service over a specified period in a specified locality.

2.6 Search Results

The overall number of hits for academic literature was 533. After screening the 533 hits, a total of 26 academic papers were identified as potentially useful in contributing an answer/s to the evidence review questions. Academic papers relevant to the review fell into one of five categories. The vast majority were research studies (15), followed by a much smaller number of discussion (6), literature review (3), methodology (2) and opinion based papers (1).

The total number of references identified through the NICE evidence search engine was 5067 and 28 papers were identified as potentially relevant for inclusion in the review. During data extraction six papers were eliminated for not adding any merit to the emerging synthesis. These papers were affiliated to specific institutions and similar evidence was repeatedly referred to in their subsequent papers.

The results from the national call for evidence were disappointing. This search strategy yielded one piece of evidence submitted by Practice Teachers at Sheffield Hallam University, 2 papers through the QNI national network, and one technology presentation from Quest Community Services. Providers of IT support systems for caseload management were reluctant to share their approaches and outcomes of their systems due to the commercial sensitivity of the data. Also many are operating at the early stages in the community and may not have robust information/data to share.

3. Results

The key findings from the three search tracks are presented under eight broad themes to make explicit what is known and unknown in relation to these key areas, and highlight gaps in the current evidence base.

3.1 Lack of Clarity in Definitions Used to Describe Safe Caseload Management in Adult Community Nursing Settings

3.1.1 Nursing Roles Described Interchangeably

The review found that published reports and papers often make reference to "adult community nursing" without exploring fully what this means. A recent study by Maybin et al (2016) highlights that the terminology describing community nursing services and district nursing services is used interchangeably. The Queens Nursing Institute (2011) identify that the term 'community' encompasses a whole range of different meanings and viewpoints. The essence of community is therefore difficult to capture within a single definition. If we are not clear about what aspect of the workforce is being explored in terms of staffing, skill mix and caseload there is a danger of oversimplification of contribution and a lack of understanding of the multidimensional complexity of nursing care being offered by different roles.

NHS England defines community nursing as "*a diverse range of nurses and support workers who work in the community including district nurses, intermediate care nurses, community matrons and hospital at home nurses*". [NHS England 2015:5]. '*Community staff nurses work with a wide range of health and social care professionals to deliver care across a patient's lifespan*.' (QNI 2011 P 4) The ultimate purpose of community nursing is identified as being able to work collaboratively in providing safe and effective holistic nursing care to people in or near their home: enabling people to make choices, self-manage and maintain control over their quality of life (QNI 2011: 80) (Figure 4).

The definition of district nursing on the other hand describes registered nurses with a specialist practitioner qualification in district nursing (QNI 2011; Drennan 2014). The complexity of district nursing care is highlighted by the QNI (2009, 2016) and Maybin et al (2016), which includes assessment of complex health needs, assessment and management of risk alongside application of specialist knowledge and skills which require nurses to work both autonomously and collaboratively across organisations from hospital to home. There is an important role in leading and managing the team, governance and the management of risk within the caseload.

Figure 4: Diversity of nursing staff working in adult community nurse settings managed by the district nurse team or community team leader

Nursing support staff or health care support workers – staff working in clinical roles in district nursing teams who are not registered nurses, for example health care assistants and assistant practitioners.

Community nurse – a registered nurse working in the community with or without a specialist practitioner qualification. Registered nurses work at varying levels of seniority within community teams, depending on their level of experience and pay banding. It is possible for nurses without the district nursing qualification to hold management positions.

District nurse – a registered nurse with a district nursing specialist practitioner qualification recordable with the Nursing & Midwifery Council. The specialist practitioner qualification focuses on topics including: case management; clinical assessment skills; care co-ordination; autonomous decision-making; advanced clinical skills; leadership and team management. These nurses often hold senior or management positions within community nursing teams. In practice, the term 'district nurse' is often used to refer to nurses working in district nursing teams who do not have a specialist practitioner qualification, but occupy a 'district nurse' post.

Community matron –also known as case managers or caseload managers, are experienced senior nurses who work with patients with complex health problems combining advanced clinical practice with active case management. Community matrons work to improve the care of people living with long-term conditions in the community through: education, support for self-management, close surveillance and co-ordination of health and social care services. Community matrons often work with patients with multiple long-term conditions and complex needs. They provide a single point of care to support provide care for patient and prevent hospital admissions (Maybin et al 2016).

Clinical nurse specialist – an advanced practitioner with expertise in a particular condition or set of conditions. Clinical nurse specialists may work in acute or community settings, they may visit patients at home and they may offer support and advice to community nursing teams. Specialty areas include: tissue viability, continence, palliative care, chronic obstructive pulmonary disease and heart failure (Maybin et al 2016).

In summary adult community nursing is complex and comprises many different interrelated nursing roles. Having a clear understanding of the contribution that different types of nurses make to delivering person-centred, safe and effective care combining the right skills in the right place for patients is essential. It is a vastly misrepresented and misunderstood field for workforce researchers. (Figure 5)

Figure 5: Role of District Nurse
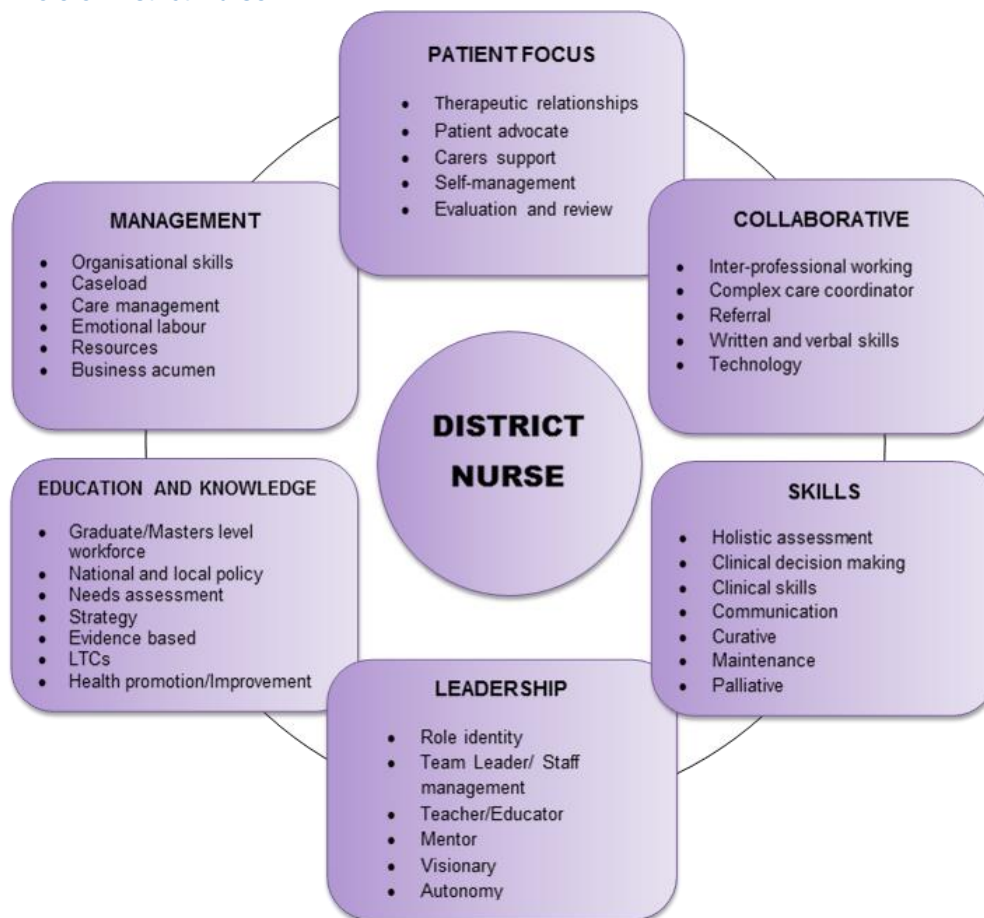
Source: QNI (2015b)

3.1.2 The Concept of Safety When Applied to Nursing Caseloads is Poorly Defined

The concept of "safety" is poorly defined in relation to adult community nursing services yet there is frequent referral to and emphasis on *safe staffing* (Bowers & Durrant 2014). Safety is frequently talked about, but often conceptualised and defined in medical terms for acute hospital environments. Therefore, the model of patient safety is rarely considered in relation to care delivery beyond hospital walls.

The Institute of Medicine (IOM) defines patient safety as freedom from accidental injury. Emanuel and colleagues comprehensively define patient safety as "*a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events*" [Emanuel et al, 2008:6]. The authors devised a simple model for patient safety that includes four domains (Table 6):

- those who work in health care;
- those who receive health care or have a stake in its availability;
- the infrastructure of systems for therapeutic interventions (health care delivery processes);
- the methods for feedback and continuous improvement.

Table 6: How domains and elements relate in the patient safety model

Domain	Systems for therapeutic action	People who work in the health care system	People who receive health care or have a stake in its availability	Methods
Content areas	• Structure • Process • Outcome			
	Organization & management Work environment Task factors External environment	Team factors Individual factors	Patient characteristics	System knowledge Understanding of variation Understanding of how change yields knowledge Psychology

Source: *adapted from (Emanuel et al (2008)*

Foot et al (2014: 36) define safety in community services as "*staff having the skills and systems in place to recognise the early signs of deterioration in a patient or a family at risk and putting in place the support and services to stop them reaching an avoidable point of crisis*". These authors list staff caseload as one of the indicators for safety acknowledging that the quality of care may be compromised due to increasing demand (Foot et al 2014). The National Quality Board (2013) does not define safety in relation to nursing caseloads but refers to having robust systems and processes in place to make sure that there is sufficient staffing capacity and capability to provide high quality care to patients. NHS England's Framework for Commissioning Community Nursing (2015) includes reference to the significance of having appropriate skills and competencies to deliver high quality care and time for supervision as caseloads become more complex.

The concept of caseload allocation has been explored by the QNI (2014) and is closely linked to workforce planning - the process by which service providers determine the patient need in a locality, the number and skill mix of the workforce needed to deliver specified services to those patients, and then allocate practitioners to individual patients. Kane (2008) describes a systematic process of workforce planning based on caseload analysis. The process involves analysing data relating to the demography of the caseload and the characteristics of the population served by the District Nursing service. The approach distinguishes between the working caseload and the total caseload. In doing so Kane (2008) acknowledges that each caseload will include a number of patients who receive care from the service at least once per month and others who require less frequent interventions.

A thematic overview of the issues that should be considered when determining a safe caseload include: patient need; complexity of care required; rate of hospital discharge; skill mix within the team; capacity of other health and social care services; use of technology; and local geographic factors such as housing (QNI 2016).The QNI (2014,2016) acknowledge that the workload for the District Nursing service is inconsistently distributed, because it is invisible within individual teams, as custom and practice continue to allow teams to work independently of each other. Some teams are therefore overworked and others are underworked. This means that it is not possible to respond to variations in workload by redistributing nursing time to where it is most needed, which increases the risk of delivering a poor quality inefficient service (Kane, 2008).

A national census survey of DCNs across England (Ball and Phillipou 2014) found that the estimated *potential* patient contact time (that is total time spent working, including additional hours, minus the time

spent travelling and doing administration) varies from approximately 30 minutes per patient for community staff nurses to 40 minutes for district nurses. This figure would be lower still if nurses did not work significantly beyond their contracted hours. Qualified district nurses spent longer per patient than community staff nurses working in district nursing teams, and thus typically saw two patients fewer on their last shift. This suggests that their caseload and roles may be qualitatively different to nurses who are not qualified as district nurses (Ball and Phillipou 2014). Direct care accounts for the largest proportion of time spent by nurses in district nursing teams, but nurses do not spend as much time on this activity as they would like. On average 37% of time is spent on 'direct care', 20% on 'assessment, care planning and coordination', 11% on 'leadership and management' and 13% of all time is spent 'travelling'. About a fifth (19%) of each day is spent on 'administration' (Ball and Phillipou 2014).

A phenomenological study of community matrons showed that practitioners considered themselves less effective at reducing hospital admissions if they are trying to maintain a caseload of 50 complex cases. This number is too high; hence community matrons tend towards reactive not proactive care. A more integrated approach is needed for deciding caseload size for managing high-risk patients effectively (Grange 2011).

According to the literature reviewed, determining safe caseloads is made more complex by a lack of investment in IT systems, a lack of agreement on clinical coding and lack of robust data on which to base decisions about what a safe caseload actually entails, which has led to a level of uncertainty among commissioners, service providers and team leaders and variations across the country (QNI 2016). In addition, there is a reported lack of information and processes for capturing information that is usable to make decisions about effective management of demand and capacity (management of caseloads that work) in community nursing (Wort & Wootton 2015, Jackson et al 2015). As a result, safe staffing has been subject to estimates and not related to demographic and empirical data (McDonald 2013). Pye (2015) reports this poses a high risk to staff and patient safety and quality which are in turn linked to reduced fiscal resource and non-replacement of staff who leave. Risk and safety are compromised because case management and case prioritising become difficult to achieve and clinical time frames risk being breached (Pye 2015).

It is important therefore in the context of investigating safe caseloads in community settings that the concept of safety is investigated taking account of all of these interrelated domains. This review has found no published research that takes this holistic view of safety within a community context.

3.2 Workforce Planning: National Versus Local Supply, Demand and Capacity Issues

Workforce planning is the process of assessing the required supply of staff to meet the expected demand, taking account of the known characteristics of the workforce and context. It allows a series of decisions to be made in order to have a workforce in place that can deliver cost effective, quality services. The ultimate goal in health services is that effective workforce planning will ensure the right people with the right skills are in the right place at the right time. (QNI 2014).

Workforce planning involves managing both supply and demand at local, regional and national level. There are three major areas of demand and supply side issues identified from the review as:
5. Demand side issues associated with the policy drive to move more services into the community to meet the needs of an ageing population with increasingly complex conditions and care needs.
6. Supply side issues associated with cuts to the level of investment made in training new nurses and ensuring an adequate supply of DCNs is in place to meet population needs taking into account losses from the workforce through retirement, and retention issues.

7. Capacity issues associated with processes used to manage supply and demand operating at local, regional and national levels.

A report for the Health Foundation (Buchan et al, 2016) suggests that the approach to workforce planning in England has been repeatedly re-organised following structural reform in the NHS and changed funding arrangements (Figure 6). The repeated disconnect between NHS funding allocation and staffing levels, compounded by periodic restructuring, has led to a 'boom and bust' approach to the NHS front line, rather than enabling a consistent and sustainable long-term view. Some reforms have given detailed consideration to workforce implications, but many have not. In particular, there have been no less than 28 policy changes since 1999 that have impacted on the development community nursing services (Appendix 2). Buchan et al. (2016) report that the tendency when trying to 'fix' any identified national NHS workforce problems has been to focus on a short-term reactive 'single intervention' approach without full understanding of the dynamics, technical limitations, such as data problems, difficulties in integrating the planning of different NHS professions, the organisational structure and 'location' of workforce planning capacity, and the composition of the planning capacity itself. They recommend that *"National policy and planning must consider the needs of the health system workforce holistically and dynamically."* (Buchan et al, 2016: 5).

Figure 6: National changes in NHS workforce planning in England, selected list, 2000–16 Source: *Buchan et al. (2016)*

Year	Change
2000	NHS Plan published – NHS staffing growth targets published
	NHS HRH Plan published
2001	27 regional Workforce Development Confederations (WDC) established
	Primary Care Trusts (PCT) established
	NHS Modernisation Agency created
	NHS Workforce Review Team (WRT) established to produce national annual recommendations for planning for all of the main clinical staff groups
	National Workforce Development Board established
2002	Strategic Health Authorities (SHA) created
2004	WDCs ended, merged with SHAs
	NHS Employers established
2005	Modernisation Agency replaced with NHS Institute for Innovation and Improvement
2006	Number of SHAs reduced from 28 to 10
2009	Medical Education England (MEE) and Professional Advisory Boards (PABs) established
2010	Department of Health (DH) publishes *Developing the Healthcare Workforce* proposing to create a new body which would supersede both MEE and the PABs. Health Education England (HEE) was to 'go live' in April 2012
2010	DH contract a management consultancy to set up and run the Centre for Workforce Intelligence (CfWI), to be 'the national authority on workforce planning and development and the primary source of workforce intelligence'
	National Workforce Review team closed down as a result; some staff and functions transferred to CfWI
2013	HEE becomes operational, absorbing MEE (a year later than initially planned); SHAs abolished
	PCTs abolished; Clinical Commissioning Groups (CCGs) established
	NHS Institute for Innovation and Improvement closed
2016	CfWI closed down; some functions transferred to DH, and HEE
	NHS Improvement established (by merger of Monitor, Trust Development Agency and other bodies)

This year alone there have been 9 workforce policy reports in England but there is a significant policy disconnect between funding and workforce at local and national level. Local Education and Training Boards (LETBs), use a 'bottom-up' approach to workforce planning, based on a collection of NHS trust forecasts of what their future demand for staff will be. One of the limitations of this bottom-up approach is that different NHS trusts have varying levels of capacity to understand and analyse their current and future staffing requirements, their business plans and their likely funding levels. Buchan et al. (2016) identify that localised funding–staffing disconnects can then become magnified at national level, where the national assessment may also be impacted by national funding–staffing disconnects. Poor quality data with large variation in definitions in terms of staff and populations served is an unreliable mechanism for managing reductions and gaps in the community workforce. Efficiency measures proposed rely on reducing cost independent of a sufficient workforce with the right skills (RCN 2010a, RCN 2010b, 2012).

There is therefore currently a national imbalance with an increase in demand for community nursing services alongside diminishing workforce numbers to meet that demand. In many localities services and the workforce required to provide them are planned without a robust dependency classification system that can align the profile of each caseload and the intensity of care being provided to the community nursing teams. This is further complicated by insufficient investment to enable district nurses to meet the projected demand for end of life care (RCN 2013, 2014, 2012, 2010b, Maybin et al 2016, QNI 2016, 2014). There is a lack of published research evidence of the impact of these policies on front line practice and it is really important to have insight into the cost consequences of implementing safe staffing policies.

Figure 7: Recent Workforce Policy Reports

Organisation	Report title	Publication date
National Audit Office	*Managing the supply of NHS clinical staff in England*	February 2016
NHS Improvement	*Evidence from NHS Improvement on clinical staff shortages. A workforce analysis*	February 2016
Department of Health	*Operational productivity and performance in English NHS acute hospitals: Unwarranted Variations. An independent report for the Department of Health by Lord Carter of Coles*	February 2016
NHS Pay review body	*NHS Pay review body: Twenty-Ninth Report*1	March 2016
The Health Foundation	*A perfect storm: an impossible climate for NHS providers*	March 2016
Migration Advisory Committee	*Partial review of the Shortage Occupation List. Review of nursing*	March 2016
The Health Foundation	*Fit for purpose? Workforce policy in the English NHS*	March 2016
Public Accounts Committee	*Managing the supply of NHS clinical staff in England. Fortieth Report of Session 2015–16*	April 2016
Nuffield Trust	*Reshaping the workforce to deliver the care patients need*	May 2016

Source: *Buchan et al (2016)*

3.3 Gaps in Community Workforce Planning Systems

The National Quality Board (2013) underline that the evidence base for workforce planning and safe and effective staffing within community settings is less established than that for acute care settings. Attempts to gather intelligence about existing workforce planning tools have been made by the QNI Developing a National District Nursing Workforce Planning Framework (2014) and NHS England's Framework for Commissioning Community Nursing (2015: 23). The NHSE (2015) suggests that the workforce planning tools they reviewed have principally been developed in response to the commissioning landscape, being based on activity and demand rather than outcome based commissioning and tool developers, sponsors or commercial owners write much of the information available.

In England several caseload allocation methods are currently being implemented by service providers but most of these have been developed locally and driven by local requirements, and are operational in nature, focusing on scheduling, caseload allocation or validation appropriate to decision making in a local context. There is very little published evidence of reliability and validity testing of many of the approaches (Auckland 2012; Pye 2015, McDonald 2013, Wright et al 2015). The areas least well served by current methods have been emphasized in a recent QNI report which are highlighted in red in Figure 8.

Figure 8: Areas least well served by current workforce planning tools and methods (QNI 2015)

Process	Reporting	Outcomes	
Workforce profiling	Performance reporting	Performance improvement	Reduce non clinical time
Demand forecasting	Workforce capacity	Risk reduction	Patient focus, quality, outcomes
Patient allocation/ scheduling	Benchmarking	Informing management and commissioners	Right nurse right skills
Service profiling and standardisation	Financial reports	Managing workload	Predicting future requirement

The most consistently identified challenges reported in the literature relate to the lack of reliable high fidelity data and processes to capture demand, workload, complexity and capacity (Wort & Wootton 2015, Jackson et al 2015). Leary (2014) reports that this lack of data, especially of ongoing and upwardly complex cases makes predictions and caseload calculations difficult, as well as leading to job dissatisfaction associated with work left undone. Fasoli and Haddock, (2010) published a systematic review of 58 studies which found little objective and validated information regarding any system to determine staffing requirements as well as a lack of standardisation of measures, and concluded that systems to determine staffing requirements do not adequately capture nursing work and provide insufficient accuracy for resource allocation or for decision making. This is a challenge for

community services due to the multiplicity and complexity of data flows required to cover the numerous and diverse services, settings and client base covered by community care; the less developed information infrastructure in community care; and difficulties in monitoring quality when care is provided in users' own homes (Foot et al 2014).

The RCN (2010) recommended that workforce planning tools used for nurse staffing should undergo a similar level of scrutiny that the National Institute for Health and Care Excellence applies to specific healthcare interventions. Despite this call, 6 years have elapsed and there has been very little investment in this level of scrutiny to date at a national level.

As part of this literature review, a national call for additional evidence of unpublished tools to technology companies facilitated by the QNI yielded one response from Quest. This will not be the only toolkit that has been developed but there is a reluctance of technology companies to share their products possibly due to commercial confidentiality of sharing in a competitive market. Further there is evidence from national community nursing networks that there are many initiatives in development from grass roots teams but these are not published, or publicly available. Most importantly working together, commissioners and providers need to evaluate the impact and benefits of the tool and whether this meets the future person centred outcome focussed service they wish to provide at a local level to meet population needs.

More economic analysis needs to be commissioned to establish the set up and running costs to community organisations for using toolkits, but it is suggested that these may be very small in comparison with the potential savings that can be made in terms of improvements in staffing levels, quality of care and patient experience, and staff wellbeing (Jackson 2016). Indeed, an economic case study published by the RCN (Jackson, 2016) suggests that place based demand toolkits may offer real opportunity to improve the evidence base of workforce planning and development driven by the needs of community populations. This report goes onto suggest that "*the Cassandra tool provides potential to i) model the multidimensional complexity of care in different contexts and populations and ii) develop a potential blueprint for robust monitoring of decisions related to safe caseloads, staffing levels and skill mix iii) when triangulated with other metrics, provides additional value to organisations as it enables an accurate picture to be created to monitor safe caseload, staffing levels, skill mix and competence and impacts on quality of patient care and commissioning of services in different geographies*" (Jackson 2016).

3.4 Impact of Staffing Levels on Patient Outcomes

According to a national survey conducted by Ball and Phillipou (2014) on average 75% of the staff employed in district/community nursing teams are registered nurses (including DNs, staff nurses/sisters and community matrons) with a further 17% of the team being band 1-4 healthcare support workers. Administrative and clerical staff and others make up the remaining 6% of the staff employed. The typical district nursing team is made up of approximately 15 members of staff (mean average), representing 11 whole time equivalent (WTE) posts. This team typically consists of approximately two district nurses, 5 registered nurses (without DN qualification), one community matron, 2 Health Care Assistants (HCA's)/other support workers, one clerical/administrative staff and half an 'other' staff. However, these averages mask considerable variation in the composition of teams. In 16% of cases there were no district nurses employed, 43% of teams had no community matrons and 38% did not have any administrative/clerical support staff. The reported quality of care is significantly correlated with the number of patients seen. Nurses rating the care provided as 'excellent' had seen an average of 8.1 patients on their last shift; those rating care as 'fair' or 'poor' had seen 11.0 patients in their last shift. Despite differences in average caseloads between staff groups, the correlation between numbers seen and assessment of quality holds true for each group – those with higher caseloads are more likely to have described the quality on that shift as 'poor/fair' compared to those who had seen fewer patients Ball and Phillipou 2014).

There is a distinct lack of research evidence that links staffing levels and skill mix with patient outcomes in community care currently (RCN 2010) and it is suggested that this may be because describing staffing levels in the community is far more complex than within hospitals. Measures used for community staffing levels (nurses per 1,000 head of population) and caseloads (patients per nurse) are unreliable as none of the parameters is fixed. As a result, it is difficult to arrive at consistently defined data that allows producing averages and drawing comparisons.

A national census survey of RCN members occupying district, and community nursing and matron roles conducted in 2014 established a strong correlation between low staffing levels and quality care (Ball and Phillipou 2014). High caseload holders were more likely to describe the quality of care provided as fair or poor. High quality care, although measured subjectively in the survey, was the indicator for safe nursing caseloads. The survey also identified that administrative and clerical tasks undertaken by nurses would be more cost effectively completed by clerical or administrative staff, freeing them up to provide more care time with clients (Ball and Phillipou 2014).

This literature review found evidence of a number of studies linking staffing levels with patient outcomes in acute settings. Kane and colleagues (2007) provided a systematic review of 101 studies, mainly from the USA, concluding that increased registered nurse staffing levels are associated with lower rates of hospital related mortality in medical and surgical patients and adverse events such as failure to rescue (Kane et al 2007). This result was confirmed by a subsequent review of reviews and 15 additional primary studies (Shekelle, 2013). Major studies have continued to be undertaken in countries around the world including Australia (Twigg et al., 2016, 2011), China (You et al., 2013), England (Rafferty et al., 2007), Thailand (Sasichay-Akkadechanunt et al., 2003) and across 12 European countries (Aiken et al., 2012, 2014). While some evidence exists about associations between nurse staffing levels and outcomes in other settings; including emergency departments (Recio-Saucedo et al., 2015), nursing homes (Spilsbury et al., 2011), mental health (Bowers and Crowder, 2012), cancer (Griffiths et al., 2013b) and primary care (Griffiths et al., 2010a, Griffiths et al., 2010b and Griffiths et al., 2011); the vast majority of studies are focussed on acute care hospitals.

There is some evidence of an association between staffing levels and length of stay, rates of falls, missed care, pressure ulcer incidence and drug administration errors. Three studies found that having more registered nurses was significantly associated with lower rates of falls (Donaldson et al., 2005, Patrician et al., 2011andPotter et al., 2003). Four studies found that higher nurse staffing levels were significantly associated with shorter length of hospital stay or reduced rates of extended hospital stays (Blegen et al., 2008, Frith et al., 2010, O'Brien-Pallas et al., 2010 and Spetz et al., 2013). Kane and colleagues (2007) concluded that an increase of 1 registered nurse per patient day in an in-patient setting was associated with a 24% decrease in length of stay for surgical patients (Kane et al., 2007). Three studies report that there is a higher degree of missed care associated with lower staffing levels (Ball et al., 2014, Tschannen et al., 2010, Weiss et al., 2011).Three studies found that higher staffing was significantly associated with lower rates of ulcers (Donaldson et al., 2005, Duffield et al., 2011 and Hart and Davis, 2011). However, a further two studies found a significant association in the opposite direction, with units/hospitals with more staff having higher rates of pressure ulcers (Cho et al., 2003andTwigg et al., 2013). Nine studies explored associations with drug administration errors of which three showed low staffing to be significantly associated with higher rates of errors (Frith et al., 2012, O'Brien-Pallas et al., 2010 and Patrician et al., 2011). Greater research attention to the impact of 'missed care' is needed. A 'missed care' measure may be a useful correlate of nursing care quality, and inform staffing decisions at ward level. Further research is needed to test the measure against patient outcomes, and to support comparability between care settings nationally and internationally (Ball et al 2014; Griffiths et al 2016).

Evidence also suggests that lower registered nurse staffing levels have been associated with higher rates of death in four studies (Blegen et al., 2011, Needleman et al., 2011, Sales et al., 2008 and

Sochalski et al., 2008) and with failure to rescue (Park et al., 2012 and Twigg et al., 2013). Twigg et al (2016) have just published the findings of a study in eleven acute care metropolitan hospitals in Western Australia which explores the impact of adding assistants in nursing on adverse patient outcomes using administrative health data: Post-test analysis showed that spending time on wards with nursing assistants working in a substitutive role, was a significant predictor for urinary tract infection and pneumonia. For every 10% of extra time patients spent on these wards they had a 1% increase in the odds of developing a urinary tract infection and a 2% increase in the odds of developing pneumonia. This research study recommends that the introduction of nursing assistants should be done under a protocol which clearly defines their role, scope of practice, and working relationship with registered nurses, and the impact on patient care should be monitored.

Lack of evidence beyond acute care was cited as one of the reasons that NICE was asked to discontinue its programme of work after completing only two sets of guidance (Lintern, 2015).

Three key pieces of published work identify the role of the unregulated workforce in providing community care and support. In the Western Isles of Scotland, McCulloch and Gilmore's (2015) review found that support workers carry out almost half of the level 1 and 2 (the least complex) work and that almost all work at level 3 and 4 (most complex) is carried out by "suitably qualified personnel". The evaluation established that new models reflect the increasing complexity of care at home and the nursing skills required are a combination of skills associated with district nursing and those of nurses working in acute settings. Spilsbury et al (2013) highlight that there is an assumption that routine care will be provided by unregulated nursing assistants and complex care by a registered nursing workforce. However, debate exists about the role boundaries between registered nurses and unregulated nursing assistants and the growing complexity in care means a need for more extended specialist skills (Spilsbury et al 2015). There is a reported lack of consistency in the unregulated nursing role and no clear precincts for how the role is developing in different organisations or what constitutes an appropriate ratio of nursing assistants to registered nurses. Spilsbury's scoping review (2013), along with a recent press release by Unison (2016), suggest that there is evidence to demonstrate that some nursing assistants work beyond their level and may undertake registered nurse tasks and that assistants can provide a type of maternal figure, emotional support and stability to community teams. Given the recent announcement of the national pilot of the nursing assistant band 4 role across England it is vitally important to have a clear empirical evidence base of the impact on registered staff and patient outcomes.

3.5 Impact of Staffing Levels on Nurse Outcomes

Many studies of nurse staffing use one common data source, surveys of nurses, for measuring staffing, work environment variables and outcomes such as job satisfaction and perceived care quality (e.g. Aiken et al., 2002, Aiken et al., 2012 and Ball et al., 2014). This can bias effect estimates because respondents to a survey tend to provide answers that are consistent in their point of view, leading to halo effects or effects of social desirability (Antonakis et al., 2010). Griffiths et al (2016) suggest that one of the primary goals of studying nursing care delivery systems is to measure and identify the added value nurses bring to the healthcare system. This value orientation encompasses both the quality, costs and outcomes of care (Pappas, 2013). There are ongoing efforts to identify and measure nursing care value based on emerging capability to measure the clinical care of patients at many different and simultaneous levels (Welton and Harper, 2016). New research methods need to be developed to allow multiple research questions to be addressed that encompass not only nursing centric data, but a wide range of integrated clinical and operational data (Griffiths et al 2016).

This literature review found a lack of empirical research investigating the link between registered nurse staffing levels and nurse outcomes in a community context, although a number of large international hospital based workforce studies frequently cited suggest that there are higher levels of job

dissatisfaction and burnout amongst nurses where staffing levels are lower (e.g. Aiken et al., 2002, 2012). The research evidence on the cost effectiveness of improving nurse staffing is currently inconclusive and so the hypothesis that nurses save hospitals money due to the avoided costs from improving patient outcomes cannot yet be substantiated and this will be more difficult to determine in community settings without significant investment in empirical studies (Griffiths et al 2016; Twigg et al., 2016).

3.6 Suitable Metrics for Supporting Safe Caseload Decisions

The literature identified a number of metrics that can be used to support safer caseload management decisions at a local level associated with staffing, care activities and patient experience. However, dashboard metrics and / or measures of workload and output are not routinely robust, creating poor understanding of community nursing work (NHS England 2015). Roberson (2016) suggests that if caseload management is captured accurately, as a metric it has the potential to provide evidence of the contribution and worth of district community nursing work and its value to all stakeholders. This paper also suggests that this kind of evidence would enable decisions to be made about the best use of resources, especially when resources are limited.

According to the RCN (2014; 2010), Foot et al (2014) and Maben et al (2012) metrics that can potentially indicate safe nursing caseloads and staffing include:

Nurse to patient ratio (typically captured through caseloads; staff turnover and sickness absence
Skill mix
Use of agency/ bank nursing staff
Complaints/ incident reports
Actual nursing staff in post as a proportion of total establishment (to identify current staffing relative to the planned number of nurses required per catchment area)
The proportion of registered nurses (RN) as percentage of total nursing staff
Nurse per head of population (and may include measure of socio-economic need of population)
Staff experience -Potential improvements in staff wellbeing measured through organisational staff wellbeing survey tools and indicators of work related stress and sickness rates
Performance appraisal compliance
Training Staffing levels

Maben et al (2012) recommend the need for a consistent and standardised approach to the collection, analysis, and interpretation of data and supporting information.

An economic impact case study published by Jackson (2016) indicates that there are a number of metrics and indicators associated with Magnet hospital characteristics that would be helpful to draw upon to measure impact. These include nurse turnover rates, staffing levels (RGN and unregistered workforce bands 1-4 day and night shift), vacancy rates, staff sickness and absenteeism figures and staff reported job satisfaction and intent to leave survey data (Aiken et al, 2014; Buchan 1996, Interdisciplinary Nursing Quality Research Initiative 2015, McClure et al 1983).

Griffiths et al (2016) recommend that it is important to link to other quality metrics such as patient experience, but suggest that while a causal association between registered nurse staffing and patient outcomes remains plausible, the current evidence base is not sufficient to identify safe staffing thresholds across different types of inpatient wards let alone community settings.

Potential improvements in patient satisfaction scores by the organisation using the Friends and Family Test which is nationally benchmarked
Quality dashboards for measuring improvements in quality of care
Serious incident reports
Patient complaints

3.7 Measuring care activities

Metrics that measure care activities can help to minimise the risk delays to patient recovery, inform patients about their own progress, and provide the wider public with information about the impact of nursing care. Studies that focus on measuring care activities are small in number and tend to look at particular activities of care i.e. wound management or assessment visits. A study by Jackson et al (2015) looks more comprehensively at the care activities that DCNs engage in across a number of care domains and offer insight into the scope and complexity of activities undertaken. Across studies there is an emphasis on the importance of awareness of unrecognised or hidden activities. Unrecognised and/ or hidden work are considered markers commensurate with increased workload by the studies. Table 7 sets out the areas of work and the authors discussing them. Leary (2014), Jackson et al (2015) and Wright et al (2015) are clear that missed care and work left undone in particular breach national standards and that there is a need for them to be part of what is measured in understanding the overall care activities that DCNs engage in.

The difficulty with estimating how long a nursing activity takes is a bit of a red herring as it makes the assumption that nursing is a task driven profession consisting of a series of interventions delivered in time (a set of linear tasks that reflect time and motion studies). However, Leary (2014), Jackson et al (2014), Wright et al (2014) and Jackson (2016) caution this approach because community nursing is multidimensional involving many more people than just the patient being treated in different care contexts and geographical locations, all of which need to be taken into consideration. This is reinforced by the work of Spilsbury and colleagues who recognise that different organisations work and deliver care in different ways (Spilsbury et al 2013).

Table 7: Care Activities Unrecognised and or/ Hidden

Travel time	Roberson (2016)
Individual care	Roberson (2016)
Caseload management	Collister et al (2014; Roberson (2016)
Administration	Leary (2014); Roberson (2016)
Caseload analysis	Roberson (2016)
Work left undone/ missed care	Jackson et al (2015); Leary (2014); Wright et al (2015)
Wound management	King (2011)
Unpaid overtime	Leary (2014)
Indirect time spent between face-face contact with service users	Davidson & Bressler (2010)
Assessments visits	Wort & Wootton (2015)

4. Environmental and Organisational Enablers and Inhibitors

At a system wide level block contracts used to procure community services without any standard tariffs for community nursing affect safe nursing caseloads (RCN 2013). Spilsbury and Pender (2015) report that the reallocation and transformation of community nursing services to new organisational models is both an enabler and inhibitor of safe nursing caseloads due to the proliferation and fragmentation of commissioner-provider contracts.

Leinhard et al (2015) suggest that analysis of organisational effectiveness is an important source of qualitative analysis as this directly impacts on workload and staff/service user outcomes. Wort & Wootton (2015) suggest that metrics can support the emergence of issues about capacity to deliver care consistently and in line with quality standards. Organisational barriers cited include poor leadership, lack of information technology resource to support the work, lack of administrative and secretarial support (Ball and Phillipou 2014, Leary 2014), unfilled vacancies, lack of support for service improvement and lack of optimum caseload calculations (Leary 2014, Jackson et al 2014). Leinhard and Kettiger (2011) report that existing caseload calculation tools do not provide enough facility to take account of the organisational context in which care is being delivered. Jackson et al (2015) report that it is possible to capture the multidimensional complexity of care delivery incorporating context and service user/ carers into the process, but a big data study requires investment from research funders and is a massively under resourced area for development.

The national DCN survey conducted by Ball and Philllipou (2014) reported that 77% of DCNs in their sample reported that their 'workload is too heavy', 83% say there are not sufficient nurses to get the work done, and 75% reported specifically that there are not sufficient district nurses on their team. Working significant amounts of excess hours is commonplace among nurses working in district/community nursing teams. 81% reported they worked additional hours on their last shift, on average working an additional 80 minutes. The net effect is that 44% of those working in district/community nursing report they are not satisfied with their current job and 40% would leave their job if they could.

4.1 Summary of Key Enablers and Inhibitors for Effective Workforce Planning

Having reviewed the evidence available, a summary of the enablers and inhibitors for effective workforce planning at individual, team, organisation and health economy level are offered as a synthesis of the current strengths and limitations of work in this field. These are derived from the literature, expert panel and grey literature.

Figure 9: Enablers and Inhibitors for Effective Workforce Planning

Enablers	Barriers
Individual • Role clarity • Shared purpose and vision across individuals • Professional knowledge, skill and competence • Learning and development appropriate to banding • Manageable caseload • Effective workplace support and mentoring	**Individual** • Unpredictable travel time between appointments • Unpredictable length of appointments with patients whose condition deteriorates unexpectedly
Team • Clear vision and shared purpose within the team • Role clarity and expectations • Team competence • Strong clinical leadership model and role models • Collaborative learning and development • Effective team communication systems • Effective multi-disciplinary team relationships	**Team** • Staff turnover and vacancy rates • Challenging working environment • Complexity of care required • Poor discharge planning
Organisation • Clear vision and purpose • Clarity of expectation of services • Effective systems to monitor patient safety and caseload • Commitment to continuous organisational learning and development for quality improvement • IT systems to support working patterns • Effective HR systems and processes - flattened structure • Resources • Effective monitoring systems	**Organisation** • Ever changing organisational care boundaries affecting service provision • Resourcing and commissioning of services • Staffing levels and skill mix
Health Economy • Understanding of demographics and local planning (such as the number of care homes expected to open in the next 5 years) that underpin variation in the needs of individuals, families and carers • Good understanding of demand and modelling (population, workload etc.) • All parts of the service working together to understand local need and agreement on how to meet it as partners in the system • Concerted independent effort to understand and guide development of approaches to planning community workforce – without waiting for central policy steer • Data quality and accessibility • Metrics that are meaningful for community care • Research to attend to the 'big' knowledge gaps – not just quick fix DIY policies for staffing • Good communication and coordination and/ or integration between services • Effective provider commissioner relationships for workforce planning based on clear evidence of what services are needed	**Health Economy** • Cuts to local authority social care funding • Sufficient community placements and mentoring – especially where numbers of more highly qualified and experience community nurses have consistently fallen • Lack of data on workload and activity or any robust means of capturing it currently in commercial systems • Lack of demand modelling and a reluctance to commission any not just in terms of population demand but also nursing demand other than time filled with tasks kind of approach • Workforce demand – capacity gap • Procrastination around current evidence to inform 'safe caseloads' and guidelines • Resources – no new resources identified to strengthen and expand the workforce • Lack of data, especially around the economics of caring for people at home • Lack of understanding of the need to plan with 'block contracts' for community nursing (and other) services • Lack of understanding of the role and potential role of the skilled District Nursing service • The fragmentation in the system with multiple services such as: Hospital at Home, Intermediate Care, Rapid Response and Reablement Teams working in the same space as the District Nursing service

Track 2: Expert Panel Overview of Key Issues

This section presents the thoughts and experiences of the expert panel gleaned from a pragmatic desktop Delphi survey. Five participants who are leading academic researchers, policy advisors, and workforce modellers were approached to participate and gave consent to share their feedback in this report. These experts were drawn from advisors who had previously been called upon to review the draft NICE Safe Staffing report (2015) and have published extensively in the field, providing regular advice to policy makers. It was felt important to gain this insight given the lack of new evidence published in the literature since the NICE (2015) review. The feedback was themed to present salient points and poignant remarks cited as direct quotations in the text.

The panel were asked to identify what they saw as the current gaps in our understanding of managing safe caseloads in the adult community nursing setting in the UK.

The biggest challenge is the fractured and fragmented nature of both the decision making chains, and of the knowledge/data. Organisations with responsibilities for assessing the population 'demand' for services, and the data used to estimate that demand, is not connected to the commissioning of services, or the commissioning of education training. Meanwhile those with responsibility for commissioning and contracting services, have little data about how effectively last year's level of service met health needs – quality, and level of unmet need – and at what cost to the staff involved.

This expert workforce researcher and policy advisor, highlighted how this leads to workforce insufficiency with 80% of community nurses reporting working extra time beyond contracted hours on their last shift. This in turn goes undetected and leads to inaccuracy in assessing the workforce capacity needed to meet demand.   The emphasis on "SAFE" (and effective) staffing in terms of the quality of service provided to clients, also needs to take account of staff wellbeing and employee safety.

All of the experts surveyed highlighted the paucity of description and evidence about the interplay between staffing configurations, work patterns, patient caseload, IT and infrastructure support and then the patient outcomes, staff health & well-being, staff retention and costs. In particular, they point to a fundamental lack of understanding about the complexity of nursing, which is often described and therefore misrepresented as a virtue based profession. Yet district nursing by example, according to a leading workforce modelling expert, "*appears to be one of the most complex forms of nursing of the 45 groups I and my collaborators have looked at*". This complexity is not fully understood and this makes any kind of stochastic calculation very difficult as all variables are not known.

"Nursing is unrecognised as a safety critical profession…. and a lot of the work is about managing risk ……the value script dominates yet without safety there is no service"

"We need well designed informatics systems that collect robust multidimensional data to develop insight into what community nurses do".

*"There is little or no understanding that nursing is a **safety critical** as well as service profession".*

Whilst there may be some agreement over the variables on which safe caseloads should be based, there are currently no nationally agreed pathways of care.

In exploring what lessons can be learned from evidence arising in other fields that could be applied to the community nursing context, the panel provided some interesting suggestions and recommendations that are highlighted here. For example, high reliability organisations (HRO) (Weick & Sutcliffe 2007) in safety critical industries can teach us a lot about approaches to workforce planning which emphasize:
- preoccupation with failure;
- reluctance to simplify interpretations;
- sensitivity to operations/use of data;
- commitment to resilience;

- deference to expertise;
- value of frontline expertise.

The panel suggested that the UK is seen as the place where the ideal model in caring for people in their own homes started and we used to be a global leader, sharing our model of District Nursing all over the world evidenced from the Queen's Nursing Institute where there are records of international visits from many countries who wished to learn from the UK. The QNI report that it is still contacted regularly by other countries about the UK model of District Nursing. In the last 4 years there have been contacts and/or visits from: USA, China, Singapore, New Zealand, Japan and Holland. The QNI was asked to create a programme of learning as part of a study tour from the Dutch research centre for older people who held the UK District Nursing service model as the 'gold standard'. New Zealand and Australia may have good models New Zealand has agreed pathways of care for the DCN service which makes more possible standardising the service, extracting benchmarking and outcome data, alongside the economic case for the service.

New community models such as the Buurtzorg district nursing model developed in the Netherlands in 2006/2007 being trialled in the UK, presents an interesting opportunity to measure the impact of a nurse-led neighbourhood initiative and claims to be cost effective. The major difference with this model in comparison to the UK is that the nurses can limit their caseloads as there are often large numbers of companies providing a district nursing service that can pick up referrals. The nurses do not prescribe (none do in Holland) and the caseloads are very limited relative to the UK. As yet there is no research evidence to show the differences it makes to patient and staff outcomes although various research applications for evaluation studies are being developed across the UK.

When asked what they see as the top priorities for developing evidence for safe caseloads in adult community nursing services the expert panel identified the following:

- Standardised data collection systems which are sufficiently comprehensive to incorporate the totality of the work undertaken in the DN service so that it reflects demand- and patient, family and carer need.
- Understanding and capturing clinical outcomes which can be easily understood by the commissioners - and describe what is possible to be delivered in the community. Having one clinical outcome which is legitimately worded as 'prevented hospital admission' for most patients seen in the community would send a message about how many interventions prevent admission.
- Understanding the economic argument for investing into the DN service.
- Development/identification of patient outcome measure, patient reported outcomes measures (PROMS) and patient reported experience measures (PREMs) that are meaningful in community context for different client groups
- Quantification of the level of unmet demand for nursing care in the community – which requires better demand assessment, but also evidence of level of incomplete or insufficient care – as defined by nurses and as identified by patients:
    - *ie.*
    - *to what extent are we failing to give any care when some care is needed?*
    - *to what extent are we giving incomplete/insufficient care – where ore care, or more complete or complex care is needed?*
- What does 'good' look like in community nursing: Staff well-being (sickness absence, burnout etc.) in the community in relation to case-loads
- Effectiveness and cost-effectiveness of community nursing; impact of specialist skills on patient experience and patient outcomes
- National comparative descriptive analysis of community nursing (district nursing) staffing configurations (using a classification system) with patient caseloads - classified by types of nursing service / level of dependency on nursing service, followed by comparative analysis with patient processes and outcome.

- Comparative analysis of district nursing staffing configurations with staffing stability indices

The panel was also asked "*If a miracle happened overnight what would safe adult community nursing look like*?" A thematic analysis of their responses indicates the following vision:

- Local access to services whenever needed;
- Working closely with other local service providers;
- Use modern technology for managing caseloads;
- Staff retention and job satisfaction;
- Provide person-centred high quality care;
- Right skill mix (providing high quality generalist and specialist services).

"Safe adult community nursing would have the right skill mix (generalist and specialist) to provide a high quality service that is locally accessible to people whenever needed, use modern technology to manage caseloads, gather data, work closely with other local service providers, and use evidence to improve outcomes; and the workplace would provide job satisfaction for community nurses and improve retention of staff and skills."

5. Discussion

This review suggests that there remains a lack of published evidence about how to manage safe caseloads for community adult nursing services at a national and local level. Further investment in research is needed to identify the optimum relationship between community nurse staffing and caseload assignment levels; and how useful such information can be in terms of community nursing costs, outcomes of care, and the impact on staff job satisfaction, recruitment and retention of the workforce. Additionally, the review found no evidence of published work that took a whole systems approach to understanding the workload demands of the multi-disciplinary team within the community context.

There is a pressing need to end the "boom and bust "approach to workforce planning that has disconnected policy and practice at national and local levels creating serious issues with supply, demand and capacity within the system to meet ever increasing population demand. Planning for the existing and future community workforce involves multifaceted considerations. An important and useful recent publication by Griffiths et al (2016) suggests a series of research areas important to getting this right, including, but not necessarily limited to, making sure the right skills and competencies are matched to patients' needs; finding out how care and care outcomes are measured in the community context at a variety of levels from societal to individual level; considering the influences that have an effect on care outcomes because these are multifarious and context dependent; exploring what methods of investigation can successfully enable differing contexts and multifaceted considerations to be explored in terms of optimising outcomes and resources; capturing the value of individual, team and organisational nursing contributions, including qualitative data that recognises the worth of the emotional labour of community nursing and finally ,determining whether there is a positive cost to benefit ratio with better nurse staffing levels. It is also important to understand the role and contribution nurses make to the wider multidisciplinary team in the community context given the focus on integrated care delivery in the Five Year Forward View.

If effective solutions are to emerge for community adult nursing, this review would suggest a whole system approach to workforce planning with greater use of forecasting and scenario planning that is aligned with costings. This approach would enable key stakeholders to be involved in agreeing the main parameters of scenarios on the future shape of services, which is key to being able to consider multiple contexts, shifting environments and perspectives. Key stakeholders would be those who employ health care workers, who can participate in forward, progressive thinking on workforce skills and competencies, and who can contribute to workforce analysis. Other essential stakeholder groups, are

the professional regulators and associations, who could contribute significantly to improved data collation and analysis, but are currently not effectively involved in this. The whole system process, and its outcomes, allows for a transparent understanding of 'shortage' scenario outcomes and the 'actual' funding-constrained outcomes for national projections and national plans. Central to this approach is workforce modelling research that would enable a clear picture to be established of the multidimensional complexity of delivering adult community nursing services, and the contribution that this essential workforce makes to the delivery of person centred, safe and effective care for people close to or in their own homes. Big data studies that enable the collation of evidence about caseloads for a wide range of community roles including primary care and general practice sectors would provide a much clearer evidence base on which to base decisions about the type of workforce needed and the skill mix required to deliver the right care in the right place across different patient pathways, enabling optimum caseload calculations to be applied systematically according to what is happening in the real world.

6. Limitations

This review has been compiled within a relatively short period of time which may have limited the responses from external agencies to the call for grey literature. Casting a wider net to include more external agencies, including those from overseas, could potentially see new evidence emerge, but within the parameters of this review the methods used indicate that additional untapped evidence does not currently exist within the UK context.

7. Conclusions

In conclusion, there is very little new evidence available. In recent months there has been a flurry of policy commentary reports identifying key priorities that include needing to evidence the gaps in economics, and measuring impact of workforce policy on staffing and patient outcomes.

There is a large disconnect between workforce policy implementation at a national level and workload allocation at a local level which requires redressing from both a strategic and operational perspective. The block contracting system appears to create issues operationally further compounded locally by IT system compatibility issues and access to technology that is user friendly for nurses at the front line of care. This is essential in reducing non-clinical administration work that frees nurses up to spend more time delivering vital clinical care to patients and clients in different contexts, and to enable effective communication with the multidisciplinary team to make integrated decisions about care and treatment swiftly and effectively.

The declining numbers of DCNs in the workforce and a lack of investment in future education and training to meet population demand will continue to create issues for managing safe caseloads into the future. Even with the addition of associate roles in the workforce, it will take a decade to determine impact on staff and patient outcomes according to policy commentators. Early signs from acute settings indicates that a substitutive associate role within the workforce has adverse effects on patient outcomes but further investment is needed to understand and clarify the contribution of unregulated assistant roles in different settings, and to understand their impact on staff and patient outcomes in the UK.

This review concludes that a number of workforce tools exist, but these tend to be localised and context specific, meaning their usefulness more generally is difficult to determine and has often not been evidenced. Continued development of such tools could be more beneficial than searches for more generalizable offerings, which may never be able to take account of the wide ranging complexity across settings and environments. There is much to be said for creating a centralised bank of specific tools that can be used by workforce planners and decision-makers according to local and context needs.

It can also be concluded that there is enthusiasm for identifying a method for calculating optimal safe caseloads for community nursing in order to inform workforce planning and development; but given that much community nursing work involves in-the-moment autonomous decision-making and a good deal of emotional labour, that cannot easily be quantified, measured or predicted, it remains to be seen whether it is entirely possible to capture both the complexity and qualitative nature of this work. However, this does not mean endeavours to understand and support the work and value of community nursing should not be sought or tested, it merely means that attempts to do so need to be approached in ways that appreciate the differing and varying convolutions involved. It is also worth being mindful that a search for ideal caseload numbers should not be influenced by thinking around resources fitting demand no matter what the continuous tightening of budgets and human resource shortfalls may be. There is a point at which cost to ratio led approaches compromise care outcomes, but investment in modelling research would help to provide greater insight into the complexity of community nursing and its impact on patient outcomes designed across patient pathways. The conclusions made by the QNI in their recent report regarding what core activities should be measured is a really important aspect of modelling work that could be further developed. Having a clear set of metrics designed around core activities for the DCN workforce would be helpful.

8. Recommendations

Although the level and quality of evidence from the literature review is weak, we have made recommendations given the significance and rationale of the topic under consideration. These have been separated into strategic and operational principles and divided up to try and make explicit the leader/primary bodies relevant to each. However, in reality there is overlap – many of the recommendations require action or have implications for several bodies, and some will require a more multi-level consideration across the health service if they are to be enacted. It is also important to consider these recommendations within a whole system and we would advocate that workforce guidance should be inclusive of all professions delivering an integrated multidisciplinary care model in community settings.

8.1 Strategic Principles

Recommendations for National Quality Board and NHS Improvement

1.Provide a clear holistic definition and delineation of the concept of safety applied to managing caseloads in adult community nursing settings incorporating a model that encompasses
- Those who work in health care.
- Those who receive health care or have a stake in its availability.
- The infrastructure of systems for therapeutic interventions (health care delivery processes).
- The methods for feedback and continuous improvement.

2.Develop a whole system approach to workforce planning

National-local workforce policy and planning gaps be addressed through a whole system approach with greater use of forecasting and scenario planning that is aligned with costings. This would enable a more inclusive approach connecting key stakeholders at local, regional and national level to agree the main parameters of scenarios on the future shape of services, which is key to considering all contexts, multifarious shifting environments and perspectives. It might also provide comparative analysis of district nursing staffing configurations with staffing stability indices.

3.Develop a national classification system for staffing configurations

National comparative descriptive analysis of DCN staffing configurations (using a classification system) with patient caseloads - classified by types of nursing service / level of dependency on nursing service, followed by comparative analysis with patient processes and outcome.

4.Develop national markers and metrics as indicators of sufficient workforce

Markers and metrics as indicators of sufficient workforce numbers would provide evidence of when things have improved and the positive impact of these changes within the whole system. This would be achieved through:

i. Making the most of the tools and approaches that currently exist, invest in their development, and test their reliability and validity.
ii. Developing a metric for caseload management to provide evidence that would enable decisions to be made about the best use of resources at national and local level
iii. Developing a set of nurse sensitive outcome measures in the community to evaluate staffing sufficiency
iv. Using 'canary markers' (incomplete care, missed breaks) to provide an earlier warning system when staffing levels are becoming too stretched.
v. Quantifying unmet need because DCNs have no means of limiting their caseload currently. Commissioners need to start thinking differently about how to meet unmet need both in the short and longer term.

Recommendations for HEE and Council of Deans for Health

5.Develop a national strategy that addresses workforce retention
We recommend consideration be given to strategic principles that hold on to new and existing staff through offering attractive structured career pathway development linked to Magnet principles.

6.Investment in strategies to increase the supply, education and training of district and community nurses to redress the balance of supply, demand and capacity within the system involving collaboration with policy makers, commissioners, health care providers, and HEIs. This would involve review at local, regional and national level in the development of pre-qualifying, post-qualifying and mandatory interprofessional training across the healthcare sector and development of a system that addresses the national-local workforce planning gaps.

Recommendations for Research Funding Bodies

7.Fund economic analysis to understand effectiveness of DCN services

Fund economic evaluation research that promotes clearer understanding of effectiveness and cost-effectiveness of community nursing services, and the impact of specialist skills on patient experience and patient outcomes.

8.Fund workforce policy impact research

Consideration be given to funding research into impact of workforce policies on front line practice (patient and staff outcomes) and the cost consequences of implementing safe staffing policies.

9. Funding a national research programme to address these recommended priorities for further evidence:
   vi.   making sure the right skills and competencies are matched to patients' needs;
  vii.   finding out how care and care outcomes are measured in the community context at a variety of levels from societal to individual level; considering the influences that have an effect on care outcomes because these are multifarious and context dependent;
 viii.   exploring what methods of investigation can successfully enable differing contexts and multifaceted considerations to be explored in terms of optimising outcomes and resources;
  ix.   capturing the value of individual, team and organisational nursing contributions, including qualitative data that recognises the worth of the emotional labour of community nursing; and
  x.   determining whether there is a positive cost to benefit ratio with better nurse staffing levels.

Recommendations for Commissioners

10. Develop principles that focus on what 'good' looks like in community nursing: e.g. staff well-being (sickness absence, burnout etc.) in the community in relation to caseloads.

11. Develop and identify patient outcome measures, patient reported outcome measures (PROMS) and patient reported experience measures (PREMs) that are meaningful in community context for different client groups.

12. Understand and capture clinical outcomes, which can be easily understood by commissioners and describe what is possible to be delivered in the community. Having one clinical outcome which is legitimately worded as 'prevented hospital admission' for most patients seen in the community would send a message about how many interventions prevent admission.

8.2 Operational Principles

Recommendations for Community Service Providers

13. Develop standardised data collection systems
Standardised data collection systems are sufficiently comprehensive to incorporate the totality of the work undertaken in the DCN service so that it reflects demand- and patient, family and carer need.

14. Use evidence based processes for workforce planning at a local level
While we are aware of the limited evidence available to support the effectiveness of workforce planning tools, we recommend that healthcare organisations use evidence based processes for managing staff deployment that take account of supply, demand and capacity across the whole system. We recommend that healthcare providers measure the context of care as an integral part of their quality assurance processes.

15. Health care providers reduce unnecessary burden by avoiding duplication of effort through non clinical administration systems and providing appropriate administration support and access to supportive and integrative technologies that promote effective communication across multidisciplinary teams.

16. Create good learning environments that offer mentorship, preceptorship, and supervision to less experienced staff.

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10. Appendices

Appendix 1: Databases in Library Search

Arts and Humanities Citation Index (Web of Science)
ArXiv
ASSIA: Applied Science Index and Abstracts
Biomed Central
British Nursing Index
Dialnet
Directory of Open Access Journals
Emerald Journals
ERIC (US Department of Education)
INFORMS Journals
IBSS (International Bibliography of Social Sciences)
JSTOR
M.E. Sharpe
MEDLINE
MLA International Bibliography
Oxford Journals
PILOTS: Published International Literature on Traumatic Stress
PMC (PubMed Central)
Psyc ARTICLES (American Psychological Association)
SAGE Journals
Science Citation Index Expanded (Web of Science)
SciVerse ScienceDirect (Elsevier)
Social Science Citation Index (Web of Science)
Taylor & Francis Online Journals
Wiley Online Journals

Appendix 2: Policy Changes Affecting Community Nursing Services Since 1999

Year	Policies
1999	Primary care Groups formed to develop local primary and community care service
2000	NHS plan to modernise the NHS with an emphasis on more choice and control for patients
2000	Primary Care Trusts (PCTs) launched to purchase care for local communities from hospitals and other providers; provide community services; and tackle health inequalities to improve public health. Towards the end of 2002, the role of the initially 303 PCTs expanded to include improving the health of the community, securing provision of high quality and locally integrated health and social care
2002	Payments by results led to remuneration for acute trusts for carrying out specific treatments
2002	The Wanless's evaluation of NHS funding reported that the healthcare workforce across hospital and community settings was highly under resourced
2003	New general practice (GP) contract was introduced and resources allocated according to workload and patient population. Practices had more autonomy about the range of services they provided
2004	The NHS Foundation Trusts were established with more control over their budgets and services
2005	Creating a patient-led NHS required PCTs to introduce a choice of elective care and the accompanying a patient-led NHS required a change in the way services were commissioned to deliver better engagement with local clinicians in the design of services
2006	Strategic health authorities (SHAs) were reduced from 28 to 10. The number of primary care trusts (PCTs) fell from 303 to 152
2007	Darzi's review into the future of London's health services emphasised moving the provision of routine health care closer to people's homes and centralising specialist care services
2008	'Our vision for primary and community care' set out plans to expand non-acute services and acknowledged that there had been a lack of focus on community nursing services
2009	PCTs established a contractual relationship with their provider services leading to internal separation between PCT commissioner and provider arms
2009	'Transforming community services' was published to enable community service providers to best meet challenges of the transformation of services to patients
2010	'Liberating the NHS' set out the government's long-term vision with a focus on improving and innovating
2010	Public Health England strategy 'healthy lives, healthy people' returned public health back to local authorities (*Department of Health 2010*)
2011	Dilnot's review into funding of adult social care called for major reforms (*Dilnot, et al2011*)
2012	The health and social care Bill was enacted, focusing on more patient involvement and control over their care and having access to a wider range of providers. This represented one of the biggest shake-ups of the NHS since its inception (*Department of Health 2012a).*
2012	Care and support white paper published with emphasis on person centred care and integrating service planning and delivery (*Department of Health 2012b*)
2013	Robert Francis final report published addressing a range of issues including recruitment, training and retention of staff, the regulation of care services; and quality measurement (*Francis 2013*)
2013	Funding reforms based on the recommendations made by the commission on funding of adult care and support (*Department of Health 2013a*).
2013	PCTs were abolished and their responsibilities passed to NHS England and 211 clinical commissioning groups (CCGs). Health Education England took on the SHAs' responsibility for education, training and workforce development; and public health responsibilities transferred to local authorities (*Nuffield Trust 2013*)
2013	Care in local communities: A new vision and model for district nursing- describing roles of district nursing and the need to promote professional development and training (*Department of Health 2013b*).
2014	Transforming Primary Care, a step towards safe, personalised, proactive out of hospital care for people with complex health and care needs. Required GPs to develop personalised programme of care and support for older people (*Department of Health 2014*)
2014	NHS Five Year Forward View examining how different health and social care providers within the wider health economy may work together to create integrated out of hospital care (multispecialty community providers) *(NHS England 2014)*
2015	Lord Willis of Knaresborough review into shape of caring exploring how nurse and care assistant training could be improved to reflect changes in how healthcare will be delivered in the future *(Willis 2015).*
2015	HEE District and general practice nursing education and career framework set out to assist with the workforce planning and educational commissioning (*Health Education England 2015*)
2016	Britain voted to leave the European Union, which could potentially effect the NHS's reliance on staff from overseas (*Nuffield Trust 2016*)