Caseload profiling in district nursing: a systematic literature review

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n all corners of the UK, demographics are rapidly changing and impacting on healthcare provision. An ageing population, set to rise further, has shifted the pattern of disease from acute illness to complex and multiple long-term conditions (Dickson and Coulter Smith, 2013). Resultant policy has been driving the balance of care towards the community, and avoiding hospital admission is an international priority (World Health Organization, 2011; Northern Ireland Assembly, 2016; Scottish Government, 2016; Department of Health, 2018; Welsh Government, 2018).

Changing demographics and political focus challenge district nursing at a time that caseloads are increasing in size and complexity (Jones and Russell, 2007), with no additional resources to meet these demands, while there is one uniting feature: district nurse (DN) caseloads cannot operate waiting lists or become full (Kolehmainen et al, 2010). These challenges have resulted in increasing pressure for active management, monitoring and evidencing (measuring the complexity and composition) of DN caseloads (Baldwin, 2006).

ABSTRACT

This systematic literature review aims to identify and appraise current evidence to establish if caseload profiling (CP) provides a strategy to support district nurses to evidence and manage increasingly complex caseloads. A total of 17 studies where thematically synthesised and recurrent themes were identified and summarised under the headings of: defining caseload profiling; caseload profiling in the context of caseload management; workload analysis and its relationship to caseload profiling; potential impact of caseload profiling; and potential barriers to caseload profiling. The literature review showed CP is a robust method of articulating the complexity of care and practitioners could use it to help manage their own caseloads. However, the literature is mainly founded on expert opinion and further research is needed to strengthen the validity of the evidence.

KEY WORDS

 District nursing * Community nursing * Caseload profiling * Caseload management

This is gaining interest at government level. For example, the Scottish Government recognises that, of the $f_{1.7}$ billion spend within primary care, DN services account for the highest single expense at 16.1% (Information Services Division, 2014). Arguably, at a time of integrating health and social care services, this interest is likely to continue. Literature suggests the principles of caseload management (CM) are imperative to achieve this requirement (Ervin, 2008).

CM provides DNs with a method to manage their caseloads (Bain and Baguley, 2012). Within CM, two components specifically focus on monitoring and the evidencing of caseloads; workload analysis and the focus of this article, caseload profiling (CP)(Ervin, 2008).

CP is an analysis process that results in a description of the total caseload managed by the district nurse, in terms of a number of variables (Kane, 2009). It is carried out to articulate the complexity and composition of the caseload. The literature suggests the using CP in district nursing could provide a strategy to enable DNs to manage these increasingly complex caseloads, rising to the challenges of the changing healthcare landscape (Thomas et al, 2006).

CP presents this opportunity by equipping the DN with a tool that provides information to identify health needs of populations, proactively manage caseloads, coordinate work and reduce inequalities in healthcare because resources are allocated in a more equitable manner (Reid et al, 2008). Achieving these opportunities could ensure delivery of safe, effective patient-centred care.

However, CP in practice is infrequent and unfamiliar to many DNs (Bain and Baguley, 2012). This is echoed in the authors' professional experience, where routine measurement and evidencing of caseloads is infrequent by practitioners and often does not follow the systematic approaches of either CP or workload analysis. The consequence is more simplistic methods being used by managers to resource and distribute staffing in DN services, mainly based on GP practice list size and not the specific health needs of the particular caseload, which results in a failure to distribute resources evenly across caseloads (Burns, § 2003; Bentley and Tite, 2000; Kane, 2014).

Systematic literature review

Aim

The aim of a review is to locate, appraise and synthesise all available evidence to answer a clearly defined question (International Council of Nurses, 2012). This systematic literature review will adopt a methodological approach to comprehensively identifying and appraising the current evidence on CP.

A systematic approach was chosen because adopting a more traditional literature or narrative review would be more vulnerable to criticism, as the literature chosen can be arbitrary and limited in scope and vary in quality, which consequently makes it difficult to present an unbiased overview of the literature (Dickson, 2005).

Methods

To guide this systematic literature review, an evidencebased practice (EBP) approach was applied. This enabled a framework to be created where evidence to inform decisions that would influence clinical practice could be found and appraised (Hamer, 2005). To ensure EBP and a systematic approach were applied, Dawes et al's (2005) five steps of EBP were applied: formulation of a clinical question; systematic retrieval of best evidence; critical appraisal of evidence for quality and relevance to inform recommendations for practice; critique of the application of evidence to practice and evaluation of emerging issues; and recommendations for practice.

Literature review question

The use of the acronym PICO (patient/problem, intervention, comparison and outcome) was used to inform a systematic literature review question (Joanna Briggs Institute, 2011).

The literature review question was: 'Does applying the principles of caseload profiling to district nursing caseloads provide a strategy to evidence and manage the increasing complexity of patients' need?'

Search strategy

A literature search was conducted using the following databases: Internurse; Medline; CINAHL; Science Direct; the JBI Library; and the Cochrane Database. Search terms applied included caseload profiling, caseload management, caseload analysis, district nursing, community nursing and complexity of care. Combinations of terms were applied using Boolean operators (Ridley, 2012), with search terms truncated for variations in spelling (e.g. Nurs* or Profil*) and synonyms applied.

These search terms were wider than the literature review question. However, because terms surrounding CP can be interchangeable, additional search terms were applied. Additionally, reference lists contained in returned results were hand checked (the ancestry method) to ensure no literature was missed, minimising the potential for bias (Scottish Intercollegiate Guidelines Network, 2014). While searching for published literature, as described above, it was important to consider and include relevant unpublished or grey literature (Bowers-Brown and Stevens, 2010; Bowling, 2014), for example relevant government websites, the King's Fund, the Queen's Nursing Institute (QNI) and Queen's Nursing Institute Scotland. The search for grey literature resulted in one government white paper and one QNI report being included in the literature review.

Inclusion and exclusion criteria

Inclusion and exclusion criteria were set to ensure selection of all relevant sources of evidence (Denscombe, 2014). Full text research designs and policy were included. All returned results were written in English and published in the UK. A broad date range was applied (1999–2018) because the literature on CP is limited; narrowing the date range would have limited the return of quality evidence.

Evidence relating to caseloads from other professional groups such as health visitors or community matrons was excluded, as this would include aspects beyond the scope of this literature review. The search resulted in 20 sources of evidence to be considered for the systematic literature review.

Critical appraisal

While expert opinion has a lower status in the hierarchy of evidence, at times, and in the case of this review, it may represent the best available evidence, which justifies its inclusion (JBI, 2011).

Because 14 out of 20 pieces of evidence reviewed were expert opinion pieces, sourced literature was critically appraised using the JBI critical appraisal instrument (JBI, 2011; 2014), which is particularly applicable to expert opinion.



Figure 1. Study selection flow chart

Table 1. Variables of caseload profile design

- Number of active patients
- Age and sex
- Frequency of visits
- Care packages
- Dependency on team
- Work generated by a particular case mix
- Caseload throughput, including inappropriate admissions, one-off referrals, admissions and discharges

Source: Audit Commission (1999); Bain and Baguley (2012); Gould (2012)

Table 2 Defining caseload profiling

The critical appraisal of the evidence resulted in 17 of the 20 sources of evidence being selected (*Figure 1*). The three sources were rejected because they had not been published in a peer reviewed journal or, on reviewing the evidence, did not meet the inclusion or exclusion criteria.

Data analysis and extraction

Thematic synthesis was applied, involving identification of important or recurrent themes (Beecroft et al, 2015). The strategy of concept mapping was employed to ensure all findings were considered and to aid identification of key themes (Biggam, 2015). For detailed information on the original study, from which the present study arises, see Harper-McDonald (2016).

The findings are arranged and discussed under the following five thematic headings:

- Defining caseload profiling
- Caseload profiling in context of caseload management
- Workload analysis and its relationship to caseload profiling
- Potential impact of caseload profiling
- Potential barriers to caseload profiling.

Data synthesis and findings

Defining caseload profiling

Kane (2008) broadly defines CP as being a description of the total caseload managed by the DN. The literature included in this study specifically defines CP as a description of the total population managed by the DN in terms of several variables (*Table 1*). This detailed definition encompasses priorities that inform data collection required to complete a caseload profile.

The literature review showed that defining terminology on CP was used interchangeably, indicating that there is a potential for confusion in practice, as suggested by Bain and Baguley (2012). For example, Kane (2008) refers to

Authors and their definitions	Caseload analysis	Caseload profiling	Caseload audit
Kane (2009)	Caseload analysis is an approach used by the district nurse to analyse and describe the cases that consist of the district nurses caseload.	No reference is made to the term caseload profiling.	No reference is made to the term caseload audit.
Kane (2008)	Caseload analysis is a comparison of caseload profiles to detect any variation and to ensure validity of caseload profiles.	Caseload profiling is a description of the total population managed by the district nurse.	Caseload audit is the examination of district nursing caseloads over a range of variables.
Reid et al (2008)	Caseload analysis is a method of examining district nurses' caseloads that are then compared to other district nurses' caseloads to provide a benchmark and detect any variation to these benchmarks.	No reference is made to the term caseload profiling.	No reference is made to the term caseload audit.
Kane (2014)	Caseload analysis is a comparison of caseload profiles to detect any variation and to ensure validity of caseload profiles.	No reference is made to the term caseload profiling.	No reference is made to the term caseload audit.
Queen's Nursing Institute (2014)	Caseload analysis is a description of the demographics and characteristics of the district nurses caseload.	No reference is made to the term caseload profiling.	No reference is made to the term caseload audit.
Gould (2012)	No reference is made to the term caseload analysis.	Caseload profiling is a description of the total population managed by the district nurse.	No reference is made to the term caseload audit.
Bain and Baguley (2012)	No reference is made to the term caseload analysis.	Caseload profiling is a description of the total population managed by the district nurse.	No reference is made to the term caseload audit.

Cells with matching colours denote matching definitions and relationships

No definition provided

Cells with matching colours denote matching definitions and relationships

KEY

CP as a caseload audit. However, this view is not supported by other authors, and Kane (2009; 2014) does not refer back to caseload audit in later works.

To summarise, CP can be referred to in the literature under three distinct headings:

- Caseload profiling
- Caseload analysis
- Caseload audit.

In an attempt to aid clarity and reach a standardised definition, all three headings have been conceptualised in *Table 2*.

When considering a standardised definition of CP, the term caseload audit has been removed because it is a duplicated term and is not used in the more recent literature. Caseload analysis can be considered an overarching sister term that covers the analysis of caseload profiles collectively to establish variations between caseloads.

Therefore, the authors make the following definition of CP: 'Caseload profiling is an analysis describing the total caseload managed by the district nurse, in terms of a number of variables, in an attempt to articulate the complexity and composition of the caseload.'

Caseload profiling in context of caseload management

On conducting the review, it is important to consider CP within the context of CM. The main overarching strategy for evidencing, measuring and managing DN caseloads is CM (Bentley and Tite, 2000). Within the components of CM (*Figure 2*), two concepts focus specifically on the monitoring and evidencing of caseloads. These are workload analysis and the focus of this article, CP. CM and its components equip DNs with methods of supervision and organisation to ensure individual and family needs are met by the appropriate person at the appropriate time (Bain and Baguley, 2012).

Workload analysis and its relationship to caseload profiling

Although the focus of this literature review was to explore CP, it was impossible to ignore the relationship between CP and workload analysis, as both are attempts to provide strategies to measure and evidence caseloads. Workload analysis (WA) is a process that compares patients' dependency from single to complex measurements, which determines the nursing time required (time and motion studies) (Reid et al, 2008; Grafen and Mackenzie, 2015). As with CP, interchangeable and varying terms are used to describe WA including:

- Workload analysis
- Workload tools
- Workload measurement tools
- Dependency-acuity methods (QNI, 2014).

While some literature suggests WA supports management in resourcing services (Grafen and Mackenzie, 2015; Jackson et al, 2015), a mixed approach encompassing both WA and CP is suggested as being preferable by some authors (Reid et al, 2008; Gould, 2012). However, in two practice, areas WA was deployed and replaced by CP as a more robust alternative; this was because applying two data collection methods at the same time is viewed as unviable at a time of limited resources and high demands on the time of practitioners (Baldwin, 2006; Thomas et al, 2006).

An overall concern raised about WA was its failure to provide a strategy to evidence and ensure even distribution of resources across increasingly complex caseloads. As an alternative method, CP was identified as being the favoured method of evidencing the complexity of DN caseloads (Baldwin, 2006; Thomas et al, 2006).

Potential impact of caseload profiling

Gould (2012) suggests adoption of CP in district nursing is essential to ensure a comprehensive picture of caseload composition. Literature in support suggests CP provides a strategy for DNs to reflect and analyse their caseload over a range of significant variables (Burns, 2003; Bain and Baguley, 2012); this would enable opportunities to set relevant, realistic priorities, coordinate a large amount of work, identify skills and educational priorities of the team and reduce inequalities in healthcare because of more equitable allocation of resources (Bentley and Tite, 2000; Reid et al, 2008).

Jack and Holt (2008) support CP as essential in improving equity of care provision, which is important when it is recognised that, despite the best efforts of governments, health inequalities in populations remain as bleak as ever (Butt, 2017; Scottish Government, 2018). Additionally, CP supports the DN to be proactive and anticipatory in care provision (Department of Health, 2013; Harper-McDonald and Baguley, 2015).



Figure 2. Caseload management umbrella

KEY POINTS

- Caseload profiling provides a strategy for district nurses to reflect on and analyse their caseload to identify the health needs of caseloads and populations
- There is confusion in practice over caseload management, with numerous definitions and interchangeable use of terms
- Caseload profiling is a subset of caseload management
- There is a relationship between caseload profiling and workload analysis
- There are numerous potential barriers affecting how caseload profiling is applied in district nursing

Potential barriers to caseload profiling

While overall the literature reviewed positively portrayed the potential impact of CP, one potential barrier is that the process is unfamiliar to many DNs (Audit Commission, 1999; Thomas et al, 2006). This calls for increased awareness and education on CP in practice (Burns, 2003; Ervin, 2008).

Burns (2003) argued that the risks of not applying CP are a mismatch between demand and resources, with some teams overstretched and others less so, and little being done to promote equity of workload between teams. Presently in practice, more simplistic methods are often employed to resource and distribute staffing in DN services, mainly based on GP practice list size and not the specific health needs of the particular caseload (Bentley and Tite, 2000; Kane, 2014).

In addition, Kane (2008) cautions that a protective and guarding nature around disclosing information on caseloads may affect the accuracy of CP or prevent it being applied in practice.

This is complicated by the subjective nature of data collection (Bain and Baguley, 2012), where the DN may have incentives to maximise or minimise reported caseload data, such as wanting to protect staffing complements (Kane, 2008). In response to these barriers, it is essential that an insight is gained into how the change of approach is accepted in practice (Burns, 2003; Kane, 2014) with effective change management being imperative to ensure effective implementation in practice (QNI, 2014). Additionally, this needs supported by available and easily applicable CP designs, which are absent in current practice (QNI, 2014).

CPD REFLECTIVE QUESTIONS

- What methods are used in your practice to measure, manage and evidence caseloads?
- What would the potential impact be of applying caseload profiling principles to your area of practice?
- What barriers could there be in practice to applying caseload profiling to your area of practice?

Conclusions

The literature review showed that CP is a robust method of articulating the complexity of care, providing information beneficial to DNs and their managers. While this literature review may appear to have a management focus, this is attributed to the majority of evidence being written by authors with management status.

This article has highlighted is the broad principles of CP that practitioners could apply to their own caseloads as a supportive strategy in aiding effective caseload management. It is important, however, to remain cognisant to barriers of applying CP to practice, and that literature is based mainly on expert opinion, with the work of Kane (2008; 2009; 2014) being the only literature based on the application of CP in the practice. Of all the literature reviewed on CP, there was no qualitative work from the DNs' viewpoint regarding their perceptions or experiences of applying the process to their caseloads. This highlights the need for further research before the full impact of CP in practice can be understood.

Overall, from reviewing the literature, it can be concluded the systematic literature review question has been answered, and CP could potentially provide a strategy to provide evidence on and manage increasingly complex patients' needs in district nursing.

Recommendations

This systematic literature review has highlighted the need for further research into this topic before it can be recommended as the vehicle for evidencing and managing caseloads in district nursing practice, with the following issue emerging:

There is a need for greater understanding on the experiences and perceptions of professionals using caseload profiling, enabling new insights on the barriers, facilitating factors and significance of using CP in practice, to inform future understanding and development of caseload profiling. *BJCN*

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