The role of the DSN in providing quality diabetes care within constrained finance

Nicola Middleton

Providing the highest-quality care to our patients has always been at the heart of care delivery in the NHS. With NHS reforms, clinicians need to not only focus on quality care but also demonstrate efficiency. In this article, the author outlines findings from a literature review to determine how DSNs can provide quality diabetes services within constrained finance. A critical appraisal of nine articles highlighted the themes "improving clinical outcomes", "improving self-management" and "integrated care", with DSNs having a central role in improving clinical outcomes through integrated care.

Article points

1. Findings from a review of multi-country practice suggest that high-quality diabetes service provision can be achieved through improving clinical outcomes, improving self-management and integrated care.
2. The DSN is central to quality care delivery, facilitating patient empowerment, improving health outcomes and working efficiently through transformational leadership.
3. Better education and self-management of diabetes are processes led by DSNs that bring a cost benefit.

Key words

- Constrained finance
- DSN role
- Improved self-management
- Integrated care and clinical outcomes

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In *High Quality Care for All* (Department of Health [DH], 2008), Lord Darzi reflected clinicians' desire to place quality at the heart of the NHS. However, as clinicians need to identify efficiency savings of £15–20 billion by 2013–14 (DH, 2010a), it is crucial that economic challenge does not change this focus. Clinicians need to improve effectiveness and enhance the patient experience as well as providing value for money, in England, through *The NHS Quality, Innovation, Productivity and Prevention (QIPP) Challenge* (DH, 2010b). National QIPP programmes are there to support this change, but it is essential that as clinicians we are at the heart of this transition.

Background

The role of the DSN has evolved over the past decade in response to the shifting demands and expectations of people with diabetes, the introduction of new therapies, and government directives influencing the health economy. Since 2000, long-term improvement programmes for reform and performance have been undertaken in the NHS alongside cultural and structural changes (DH, 2000; 2001). The *Health and Social Care Bill* (DH, 2011) takes forward the NHS reforms proposed by the white paper *Equity and Excellence: Liberating the NHS* (DH, 2010a), including: reforming the NHS in the context of financial austerity; enabling patients to have more choice and supporting their involvement; improving healthcare outcomes; and increasing productivity by cutting bureaucracy costs.

Specialist nurses are under scrutiny; because of the need for efficiency savings, they need to demonstrate their contribution to quality and efficient care. While DSNs welcome the principle of moving away from bureaucracy, they are concerned about how this market-led approach will impact the quality of care (Royal College of Nursing [RCN], 2010; Valerkou, 2010; James, 2011). In addition,

there is concern about the Government failing to mention nurses in the white paper (DH, 2010a), especially as nurses make up some 70% of the NHS workforce (RCN, 2010; Valerkou, 2010). Nurses have been central to service redesign and improvement over the past decade. Specialist nurses add value to patient care, while generating efficiencies for organisations through new and innovative ways of working through audit and research (RCN, 2010; Hicks, 2011).

The author sought to determine the role of DSNs in providing quality care for people with diabetes by reviewing the literature and highlighting emerging themes for efficiency and effectiveness within constrained finance.

Literature review

An empirical literature search was undertaken using the electronic databases CINAHL and MEDLINE; search terms included "quality", "diabetes", "services", "diabetic patients", "finance", "quality of health care" and "clinical nurse specialist". Inclusion criteria were "empirical research", "adults", English language and publication year 2000–2011. Countries outside the UK were included if the findings were generalisable and could inform UK innovation; the online search was supplemented by an extensive hand search of the literature. Nine articles in both primary care and secondary care settings were identified (*Table 1*); five had quantitative designs, three had qualitative designs and one had a mixed design.

There is much discussion in healthcare about the hierarchy of evidence, and medicine favours quantitative designs (Duffy et al, 2009); however, qualitative research has much to offer the profession as it often focuses on the patient-centred, holistic and human aspects of care (Parahoo, 2006). This literature review acknowledges that all types of evidence have value and can form recommendations for practice. A critical appraisal of the articles produced three themes: "improving clinical outcomes", "improving self-management" and "integrated care".

Table 1. Articles identified from the literature search to determine the role of the DSN in providing quality and cost-effective diabetes services

Article	Objective	Findings
• Edwall et al (2008), Sweden	Experience of people with type 2 diabetes attending regular DSN check-ups	Increasing prevalence of diabetes could impact on the availability of diabetes nursing care
• Hawthorne and Gosden (2010), UK	Survey of the purpose of diabetes centres in the 21st Century	A standard term is needed for "diabetes centre", as a hub for integrated service; out-of-hours access needs improving; high-quality team-working is essential
• Lawton et al (2009), Scotland	Perceptions and experiences of moving diabetes care from secondary to primary care	A broad-ranging concept of experiences, with expectations based on previous healthcare experience
• Rothe et al (2008), Germany	Evaluation of integrated practice guidelines, shared care and education programmes	Integrated care approach, with DSNs educating primary care staff increasing quality of care
• Stenner et al (2011), UK	Views of people with diabetes about consultations and impact on management	Consultations were determined as crucial to good-quality care
• Steuten et al (2007), The Netherlands	Evaluation of a diabetes management programme with a central DSN role	Greatest improvements were seen in those assigned to a DSN
• Vrijhoef et al (2001), The Netherlands	Substitution model with central role for DSN	DSN group showed improved HbA_{1c}
• Vrijhoef et al (2002), The Netherlands	Shared care model with DSN as main care provider in primary care	Improved blood pressure, cholesterol, HbA_{1c}, self-care behaviour and knowledge
• Yong et al (2002), UK	Structured audit of DSN intervention to improve glycaemic control	DSN care contributes to improved glycaemic control

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1. All studies demonstrated that a nurse with additional education in diabetes improved clinical outcomes, probably as a result of diabetes education improving self-management and glycaemic control.
2. The literature research identified that people with diabetes felt empowered by knowledge, reassured by regular contact with the DSN and encouraged by healthcare goals.
3. As an emerging theme, the evidence suggests that improved diabetes management is enhanced when DSNs are part of an integrated team.

Improving clinical outcomes

A review of five of the articles was undertaken to determine the evidence that DSNs improve clinical outcomes (Vrijhoef et al, 2001; 2002; Yong et al, 2002; Steuten et al, 2007; Rothe et al, 2008); all results showed improved clinical outcomes when the DSN had a central role in the delivery of care. Vrijhoef et al (2001; 2002) proposed that this is associated with the support element that nurses provide, which is also highlighted by Steuten et al (2007) and Yong et al (2002). Additionally, Yong et al (2002) suggest this is linked with service delivery as part of an integrated package involving a DSN, which Rothe et al (2008) substantiate. None of the studies were able to prove cost-effectiveness except where there was a substitution of care, which only implies a cost benefit. All studies demonstrated that a nurse with additional education in diabetes improved clinical outcomes, probably as a result of diabetes education improving self-management and glycaemic control. However, it is unclear whether the nurse needs to be a DSN and what the mechanism is to improve clinical outcomes, and no cost benefit has been proven.

Improving self-management

A literature review conducted in the USA summarised key articles that address the role of DSNs in the management of diabetes (Ingersoll et al, 2005). They found that people with diabetes influence the course of their illness and their outcomes by their lifestyle choices, and recommended that providers should use the most compelling strategies to engage them. The support mechanism enabling self-management of diabetes is a theme from this investigation, which is emerging as central to the role of the DSN (Vrijhoef et al, 2002; Yong et al, 2002; Steuten et al, 2007; Edwall et al, 2008; Rothe et al, 2008; Lawton et al, 2009; Stenner et al, 2011).

The literature research revealed that clinical outcomes were greatly improved when the person with diabetes was assigned to a DSN, and this was thought to be partly attributable to promoting education and self-management (Vrijhoef et al, 2002; Yong et al, 2002; Steuten et al, 2007; Rothe et al, 2008). Stenner et al (2011) highlighted nurses' competence and interpersonal skills as prerequisites for person-centred care, and identified communication style (i.e. friendly, approachable and engaging) as greatly important to encouraging interaction. In their qualitative research, Lawton et al (2009) reported similar findings, with participants valuing nurses' consultation style.

The literature research identified that people with diabetes felt empowered by knowledge, reassured by regular contact with the DSN and encouraged by healthcare goals; continuity and access to a DSN inspired self-care and increased autonomy. However, it has not been possible to elicit from the articles the process by which DSNs promoted self-management. Although motivational interviewing (Miller and Rollnick, 2002) and care planning (DH, 2006) have been proposed as mechanisms to promote behaviour change, both these processes have not been identified in the articles as means to improve self-management. In addition, the cost-effectiveness of such approaches has been difficult to determine and can only be inferred, such as when substitution of care providers has shown equitable or improved outcomes.

Integrated care

It would appear that DSNs have a central role in supporting people with diabetes to improve self-management and in improving clinical outcomes. As an emerging theme, the evidence suggests this is enhanced when DSNs are part of an integrated team (Edwall et al, 2008; Rothe et al, 2008; Lawton et al, 2009; Hawthorne and Gosden, 2010).

Driven by the necessity to reduce cost combined with a limited capacity to meet the demands of an increasing prevalence of diabetes in the population (DH, 2003; 2011), health service reforms have shifted the balance of care from hospital to community settings (DH, 2000; 2001; Whitford and Roberts, 2004). In a qualitative study, Lawton et al (2009) examined people's perceptions and experiences over 4 years of moving diabetes care from secondary to primary care. They concluded that participants' views about their current diabetes care were informed by their

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previous service contact. The devolvement of diabetes care to general practice was presented as mixed. The implication to practice is that the specialist element of care is lacking in the primary care setting, which would benefit from a collaborative approach.

Rothe et al (2008) proposed that structural barriers affected the delivery of high-quality diabetes care in Germany. Implementing managed care structures with a strict focus on integrated care may reduce these barriers while keeping costs under control. They conducted a cross-sectional study on a cohort of 291 771 people with diabetes. The purpose was to evaluate integrated practice guidelines, shared care and integrated quality management and patient education programmes. Data were evaluated at the beginning and 2 years later; a subcohort of 105 204 people was followed for 3 years.

The results revealed significant improvement in diabetes care, and the integrated programmes enabled narrowing of regional differences; participants with poorly controlled diabetes benefitted the most. Treatment was intensified, and it was found the earlier the referral to a DSN the better the outcomes in terms of HbA_{1c} and blood pressure. Integrated care with integrated quality management, with the DSN as central to education and service delivery, was found to be a valuable approach to care.

Edwall et al (2008) have further identified the importance of continuity and regular check-ups as key to inspiring self-care. This has an important implication for practice if increasing numbers of people with diabetes are impacting on the availability of diabetes nursing care. Findings imply that investment is needed in primary care to ensure that people with diabetes attend regular check-ups at DSN-led clinics with a focus on continuity, access to specialist knowledge and sufficient time for presentation.

With current emphasis on service redesign and reconfiguration, Hawthorne and Gosden (2010) set out to explore the role of diabetes centres in the 21st Century. In this UK survey, they found that a minimum standard for the term "diabetes centre" needs to be defined, and that out-of-hours support was limited. Diabetes centres supported high-quality multidisciplinary team working, and this was facilitated by the team being co-located. They recommended that the future key role for diabetes centres is being the hub for the integration of diabetes services. This supports the Government agenda of quality improvement, efficient ways of working, promoting joining up of local NHS services, patient safety and promoting effective and efficient providers of healthcare (DH, 2010a; 2010b).

Leadership

Leadership throughout organisations and across the whole health economy is viewed as vital for implementing and sustaining change. Transactional and transformational are two types of leadership that are more appropriate than autocratic leadership in a competitive marketplace, where quality and innovative patient care are required in a changing environment (DH, 2010a). Within the policy context of diabetes, it would seem that a transformational style is effective, and DSNs are central to facilitating transformational leadership to enhance integrated care. A DSN with a transformational leadership style has the ability to lead and develop a motivated team and to provide a quality, innovative, integrated, multidisciplinary service, while managing scarce resources (Williams, 2011). This also fulfils current policy requirements of reducing sole managers in the NHS (DH, 2010a).

It is processes and case management approaches led by DSNs that suggest integrated care is cost-effective. Such approaches could lead to an overall reduction in secondary care costs (DH, 2012).

Discussion

The reformation of the NHS is essentially in the context of financial austerity while maintaining efficiency and quality. It proposes that patients will have more choice and will be supported, health outcomes will improve and productivity will increase (DH, 2010b; 2011).

How can DSNs provide quality diabetes services within constrained finance? Findings from a review of multi-country practice suggest these proposals are possible through improving clinical outcomes, self-management and

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1. This literature review has highlighted that health outcome measures are varied and difficult to evaluate.
2. The literature review concurs with NICE's quality standards, which state that improving clinical outcomes, promoting self-care and using integrated services are processes through which high-quality diabetes care is achieved.
3. This review supports the view that the role of the DSN is integral to quality care, by facilitating patient empowerment, improving health outcomes and efficient working through integrated care.

integrated care. This may require investment by trusts and employers – an investment to save. Clinical outcomes improve when a DSN is central to care delivery. Although this is partly because of the knowledge of treatments, it is also because of the skills used in empowering people to self-manage their diabetes. This enables shared decision-making between the person with diabetes and the healthcare professional. This is further enhanced by continuity and regular care, which is facilitated by an integrated team approach. This leads to improved communication, where high-quality diabetes knowledge is shared. The DSN is well placed to lead services and champion service redesign, using skills in transformational leadership. This ensures a legacy of skills and education to colleagues delivering diabetes care, thus enabling efficiency, improved productivity and quality within constrained finance.

This literature review has highlighted that health outcome measures are varied and difficult to evaluate. Therefore, the focus of the quality measures is on improving the processes of care that are considered to be linked to health outcomes (DH, 2012). This is recognised in the *NHS Outcomes Framework* (DH, 2010c). Complementing this, NICE has published *Quality Standard for Diabetes in Adults* (NICE, 2011); the quality standards set out 13 quality statements, including structured education, lifestyle modification, agreeing personal targets and recommendation that diabetes services should be commissioned from and coordinated across relevant agencies encompassing the whole diabetes pathway.

The literature review concurs with NICE's quality standards, which state that improving clinical outcomes, promoting self-care and using integrated services are processes through which high-quality diabetes care is achieved. It also supports the view that the role of the DSN is integral to this quality care, by facilitating patient empowerment, improving health outcomes and efficient working through integrated care. This supports key principles in the reformation of the NHS (DH, 2010a; 2010b; 2010d; 2011).

An identified gap in the research is cost-effectiveness, but the potential for this can be established from the literature review: the specialist knowledge of DSNs reduces costs by reducing complications of diabetes; DSNs enable people with diabetes to self-manage, with substitution of care from physician to nurse; management costs are lean as DSNs possess clinical and management skills; and DSNs provide education, which when disseminated within integrated teams with a transformational style of leadership has the potential to reduce costs.

A limitation of this review is that some studies were based in countries other than the UK (see *Table 1*); in the UK DSNs work differently to their European colleagues, as many work in a more autonomous way and can prescribe.

Recommendations for practice

As a result of findings in this literature review, and other views, the following recommendations are proposed by the author in order for DSNs to provide quality diabetes services within constrained finance:

- DSNs should ideally be educated to degree level, demonstrating the ability to reflect, critically analyse and review delivery of care (Castledine, 1991; 2002; Diabetes UK, 2010).
- DSNs should lead diabetes care alongside medical consultants, providing expert clinical support (Castledine, 1991).
- DSNs should maintain skills and knowledge, including new treatments, consultation style, teaching skills, management and leadership skills. This should be facilitated through attending courses and professional conferences (Castledine, 1991; 2002; RCN, 2004; DH, 2005; TREND-UK, 2011).
- DSNs should lead integrated services that enable interprofessional working, devising processes that reduce costs and result in optimum outcomes for the person with diabetes. Networking will identify gaps in workforce skills (DH, 2012).
- DSNs should provide education to non-specialists delivering diabetes care, ensuring

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safe practice and up-to-date knowledge. This may involve equipping nurses with new skills and building on competencies (Castledine, 1991; Diabetes UK, 2010).

- DSNs must empower their professional contribution by developing tools to measure their activity – this could be an audit measured against the new *Quality Standard for Diabetes in Adults* (NICE, 2011).
- DSNs must foster transformational leadership as a process to continue efficient and quality care in the face of increasing demand and diminishing financial resources.

Conclusion

In order to maintain quality diabetes services within constrained finance, the specialist input of a DSN is essential. Improvements in clinical outcomes, improved self-management and integrating services are processes led by DSNs that should bring cost benefits and support key principles in the reformation of the NHS. DSNs must monitor their activity to be able to demonstrate a cost benefit, so that quality services can continue within constrained finance; further research is needed on this topic. ■

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