# Developing a diabetes link-nurse programme using the RAID quality improvement model

Kim Bull, Amanda Veall

**Article points**

1. A 12-month project was undertaken, aimed at developing effective diabetes link nurses who could work collaboratively with inpatient DSNs and directly enhance diabetes inpatient care.
2. The RAID (review, agree, implement and demonstrate) quality improvement framework was simple to implement and assists multidisciplinary teams in making quality improvements.
3. A structured diabetes link-nurse programme with competency-based learning can improve knowledge and motivation, and has the potential to improve patient care.

**Key words**

- Inpatient care
- Link nurse
- Quality improvement model
- RAID

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**This article discusses the design and implementation of a project to establish an effective secondary care diabetes link-nurse programme using the RAID (review, agree, implement and demonstrate) quality improvement model. The project aimed to improve the quality of inpatient diabetes care in an acute district general hospital. At the conclusion of the project, the number of link nurses had increased and improvements in inpatient diabetes care had been achieved through participation in the link-nurse programme.**

The burden of diabetes has considerable clinical, service and cost implications. According to the National Diabetes Support Team (2008), approximately 10% of hospital beds are occupied by people with diabetes, at a cost to the NHS of approximately £465 million per annum.

The Audit Commission (2000) found that many individuals in the acute care setting were not always receiving best care, and that standards were variable. In 2001, the National Service Framework (NSF) for diabetes (Department of Health [DH], 2001) set standards to improve the quality of care for people with diabetes. Standard 8 focuses on the care of people with diabetes during hospital admission. An efficient link-nurse programme to support the diabetes inpatient specialist nurse (DISN) team was seen as the way forward in assisting with achieving Standard 8 of the NSF, and driving the improvement of inpatient diabetes care.

The authors' hospital had an established link-nurse group, with members from primary and secondary care. However, only a small number of members (8–10) regularly attended meetings, usually primary care nurses, with secondary care nurse attendance being particularly limited (only two or three nurses attending). No formal role expectations had been agreed, leaving the link-nurse role ambiguous and undefined.

Dowling (2000) asserts that DSNs directly influence quality of care, but that DSNs need to influence diabetes care in a larger group of people than they can individually attend to. The need for link nurses, therefore, appears to have increased simultaneously to the diversification of nursing roles and the resulting specialism.

Much has been written regarding working in new ways, partnership working and development of existing roles, with staff at all levels being key to reforms (DH, 2000). Hasson et al (2008) propose that the role of a link nurse is to cascade good practice and training to nurses and other staff to enhance patient care. A link-nurse programme is unique in reaching a wider audience of staff and inpatients, and

**Page points**

1. The project aimed to increase the number and motivation of secondary care link nurses within the district general hospital site, and to enhance their knowledge and bridge the theory–practice gap in dissemination of that knowledge.
2. In developing the project, the authors employed the RAID (review, agree, implement and demonstrate) quality improvement framework, developed by the National Clinical Governance Support Team.

also for career progression. It has been heralded as potentially very valuable (McErlean, 2005) and was, therefore, ideal in its composition to achieve the desired outcome of the project.

The concept of diabetes link nursing is not new. It has been widely discussed for a number of years, and was briefly considered by the authors in their previous article discussing a competency-based education programme for secondary care nurses (Veall and Bull, 2009).

## Aims

The project aimed to: (i) increase the number and motivation of secondary care link nurses within the district general hospital site; (ii) enhance their knowledge and bridge the theory–practice gap in dissemination of that knowledge. Thus, objectives for the link nurses were identified as:

- Participation in staged, competency-based learning.
- Attendance at interactive meetings.
- Commitment to disseminate their achieved knowledge to colleagues and people with diabetes.

The overall goal of the project was to develop effective link nurses, who were knowledgeable and could have a direct influence on the quality of patient care and outcomes.

## Quality improvement cycle

In developing the project, the authors used the RAID (review, agree, implement and demonstrate) quality improvement framework, developed by the National Clinical Governance Support Team (Halligan and Donaldson, 2001). RAID is an acronym for a four-stage process for achieving changes in practice. The framework encourages expression of opinion and problem solving for quality improvement (Champion, 2004). Ethical approval was not required.

### Stage 1: Review

This stage endorses identification of stakeholders who may hold some interest in supporting proposed changes (Champion, 2004). The stakeholders identified for this project were:

- Ward managers, who enable link nurses to develop clinical skills, attend meetings and exercise their role in practice.
- Trust managers, for whom positive project outcomes would enhance inpatient care, possibly reducing the length of stay, thus reducing cost.
- DISNs, for whom positive project outcomes would increase the quality and timeliness of referrals and improve inpatient diabetes care.
- People with diabetes and their carers, for whom positive project outcomes would improve satisfaction and the quality of diabetes care received.

A review of practices and needs at the hospital site was undertaken. This review comprised four parts:

1. Examination of the existing link-nurse group revealed that link nurses were recruited based on attendance of university diabetes courses. This was a restrictive selection process, unable to reach a wider group of interested nurses. The majority of group members were based in primary care, with few secondary care nurse participants. Meeting attendance of secondary care nurses was minimal. There were no role guidelines, and meetings were generally poorly advertised.
2. Writing to current secondary care link nurses and all ward managers. These groups were informed of the project and details of the new link-nurse programme. Ward managers were asked for the name of their current link nurse or interested registered nurses. Only registered secondary care nurses were recruited, as they would be able to influence policy in practice and pass on information. From the details provided, an electronic link-nurse database was developed for future correspondence. (Engagement with ward managers early in the project was key because their support would be needed at all levels, particularly during initiation of the project.)
3. Using a confidential questionnaire, information regarding the views, knowledge base, motivation (including previous link-nurse meeting attendance) and any educational activity of the identified nurses was obtained. The data obtained were used as a baseline, to be compared with the results of the same questionnaire given at the project's conclusion for outcome assessment. It was hoped that,

**Page points**

1. The results of the workshop culminated in a document entitled *Diabetes Link Nurse Role Profile*. A draft of the document was circulated to all link nurses and DSNs on the database, with comments invited.
2. The project's implementation was challenging, with effective communication being the key to facilitating the change necessary for the project's success.
3. Competency-based learning was provided through the use of diabetes self-directed learning packs. Both visibility and competency-based learning assisted with improvement of knowledge and enable change to be facilitated.

in completing the questionnaire, staff would feel ownership over the change process and so be more willing to participate in the project's implementation (O'Kelly, 2003).

4. An overview of the project plan, with a Gantt chart to focus activity and give timelines, was written. This was disseminated to the Trust managers and the wider DSN team. The review component generated engagement of staff and stakeholders for commencement of the change required (Parker et al, 2003).

### Stage 2: Agreement

A diabetes link-nurse meeting was arranged. All newly recruited nurses were formally invited. Ward managers were contacted by letter and requested to allow their link nurse to attend. Invites were issued 6 weeks prior to the meeting to allow for off-duty planning, and reminders sent 2 weeks prior to the meeting. The inaugural half-day workshop-style meeting was well attended, with 19 secondary care nurses participating.

Discussions explored the issues raised in the questionnaire, and terms of reference for the group. Small groups were formed to explore and agree solutions for achievement of required knowledge; boundaries and team collaboration; expectation of the link-nurse role; attendance of, and themes for, meetings; developing resources and sharing knowledge. The groups returned the outcomes of their discussion to the larger group to achieve consensus and identify areas needing change.

The results of the workshop culminated in a document entitled *Diabetes Link Nurse Role Profile*. A draft of the document was circulated to all link nurses and DSNs on the database, with comments invited. This allowed those who could not attend the meeting to have input before the document was finalised. The final document stated the aims and objectives of the link-nurse role, as well as giving an educational strategy that would support the knowledge base required. Expectations of those in the role were described, and the philosophy behind the role given to provide structure. This document gave a written mandate for the role, and involved a number of stakeholders who would need to share the change process (O'Kelly, 2003).

The document was distributed to every link nurse and all were encourage to discuss the document with their ward manager. Additionally, a statement of commitment to the role was included. To be signed by the link nurse, ward manager and DISN, it was hoped that this agreement between colleagues would enhance commitment to the project from all parties.

### Stage 3: Implementation

The project's implementation was challenging, with effective communication being the key to facilitating the change necessary for the project's success. In implementing the change required, the rational-empirical strategy was used (Wright, 1998), selling the need for change at link-nurse meetings, and providing support for change through problem-solving approaches.

The visibility of DISNs to all staff groups within the hospital, including the link nurses, was increased by further ward visits throughout the hospital site. Competency-based learning was provided through the use of diabetes self-directed learning packs (SDLPs; Veall and Bull, 2009). Both visibility and competency-based learning assisted with improvement of knowledge and enable change to be facilitated.

Deadlines to commit to the link-nurse programme were set, and signed statements of commitment to the role were collected. In these statements, link nurses agreed to fulfil all aspects of the role, and ward managers agreed to ensure time was available for participating nurses to attend meetings and undertake further training, as necessary (*Box 1*). This two-way agreement empowered link nurses to effect change and take ownership of the role. A further deadline was set, by which time link nurses were expected to have achieved the knowledge base required for perform the role.

Link nurses self-assessed their diabetes knowledge using a diabetes competency descriptor self-assessment tool, and subsequently undertook the SDLP, levels 1–3 (Veall and Bull, 2009). At all three levels the SDLPs covered four areas: diet, medication, monitoring and complications. All link nurses commenced at level 1, regardless of knowledge and experience, and were expected to progress to level 3. This

training progression was agreed on in stage 2 of the cycle. It was expected that this stepwise knowledge progression would assist link nurses to build their knowledge incrementally. Competency-based education, as used here, has been widely endorsed, and is the World Health Organization's method of choice for clinical education (McErlean, 2005).

Subsequent meetings were extensively advertised via memos, flyers, emails and internal newsletters, and were well attended, with 15–28 secondary care link nurses attending in the project year. Joyce (2000) observed that knowledge alone is rarely sufficient to bring about change, thus link-nurse meetings encouraged collaborative working with reflection on scenarios and case studies to support the translation of knowledge into practice.

As part of the project's aims, link nurses needed to share and disseminate their newly acquired knowledge with colleagues to improve clinical care at ward level. Support was given to link nurses to develop resources that would assist them in educating colleagues and people with diabetes. Information folders, notice boards, newsletters and teaching materials for their areas were among the initiatives taken to facilitate this. Link nurses were asked to report to the group on the development and use of these resources on an annual basis.

### Stage 4: Demonstration

This stage included measuring and communicating the changes that had been achieved in diabetes inpatient care as a result of the link-nurse programme. To review whether the project's aims had been achieved, the questionnaire undertaken in stage 1 was repeated after 12 months. The outcomes were compared with those recorded at baseline.

The most striking changes were the increases in attendance at link-nurse meetings, and the clinical education provided by the link nurses (*Figure 1*), possibly suggesting that motivation had increased. The pre-project December meeting was attended by two secondary care link nurses, while 28 secondary care link nurses attended the December meeting during the project year. The clinical education delivered to an increased number of colleagues had the potential to translate into improved patient care and outcomes.

Comparison of the questionnaire data suggests that 12 months after the project's commencement, link nurses were working more collaboratively, sharing their knowledge in practice more frequently, and considered their own diabetes knowledge to have improved from baseline. The multimodal learning strategies used have been linked to an enhancement of patient care (Harris et al, 2007).

Anecdotal evidence from inpatient consultations during the project showed that people with diabetes were receiving increasing amounts of appropriate diabetes education (including demonstration of equipment use) prior to DISN visits. This education was found to have been delivered mainly by link nurses, but on occasions by other members of staff who had received information or training from the link nurse. This was a major improvement compared with reported patient educational experiences prior to the project.

Interestingly, the number of primary care link nurses attending meetings increased during the project (from approximately 10 to 20). Primary care link nurses also opted to complete SDLPs. This was a positive, but unplanned, outcome, given that the project was targeted at secondary care link nurses.

A number of clinical improvements in inpatient diabetes care have been achieved via the link nurses' involvement, including

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2. Comparison of the questionnaire data suggests that 12 months after the project's commencement, link nurses were working more collaboratively, sharing their knowledge in practice more frequently, and considered their own diabetes knowledge to have improved from baseline.
3. Anecdotal evidence from inpatient consultations during the project showed that people with diabetes were receiving increasing amounts of appropriate diabetes education (including demonstration of equipment use) prior to diabetes inpatient specialist nurse visits.

**Box 1. Statement of commitment, which all link nurses, line managers and DSNs were required to sign.**

As diabetes link nurse, I have the support of my line manager and diabetes inpatient specialist nurse to fulfil the role in accordance with the role profile and link-nurse action plan.

- Allowing time for development – personal, clinical area and meeting attendance (negotiated with line manager).
- Attaining competency to level 3 diabetes competencies.
- Dissemination of knowledge and skill to level 3 diabetes competencies.
- Providing support and education for colleagues, patients and carers.
- Developing diabetes resources for the clinical area, updating as appropriate, and presenting these as required at the link-nurse meetings.
- Attending meetings/study days to update/maintain skills and knowledge base (at least two link-nurse meetings to be attended yearly).
- Liaising with diabetes specialist team and others, as appropriate.
- Ensuring staff are updated annually and records kept of blood glucose monitoring.

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1. The concept of RAID, on which this project was based, encourages improvements in training and education to be seen as continuous, needing to be implemented and developed cyclically to maintain improvement.
2. At the time of writing there is a core membership of 54 link nurses from secondary care who now have a clear role description and a supporting educational strategy.
3. The evidence presented here indicates that with the use of a structured link nurse programme, inpatient diabetes care can be improved.

increased appropriate patient education, change of medication rounds to match diabetes medication actions and implementation of diabetic foot care.

## Conclusion

By its nature, nursing practice is always changing. As diabetes management is enhanced, programmes of education and knowledge dissemination need to be in place as staff members change and staff at ward level will need education in diabetes care. The concept of RAID, on which this project was based, encourages improvements in training and education to be seen as continuous, needing to be implemented and developed cyclically to maintain improvement.

When the authors embarked on this project, the existing diabetes link-nurse group was not well attended and the effectiveness of the group, due to a lack of structure and educational strategy, was questionable. Following the project, the group continues to be well attended, with an average of 38 link nurses attending each meeting. At the time of writing there is a core membership of 54 link nurses from secondary care and 67 from primary care. The link nurses now have a clear role description and a supporting educational strategy. The knowledge and skills gained by the link nurses in this programme has the potential to benefit inpatients with diabetes.

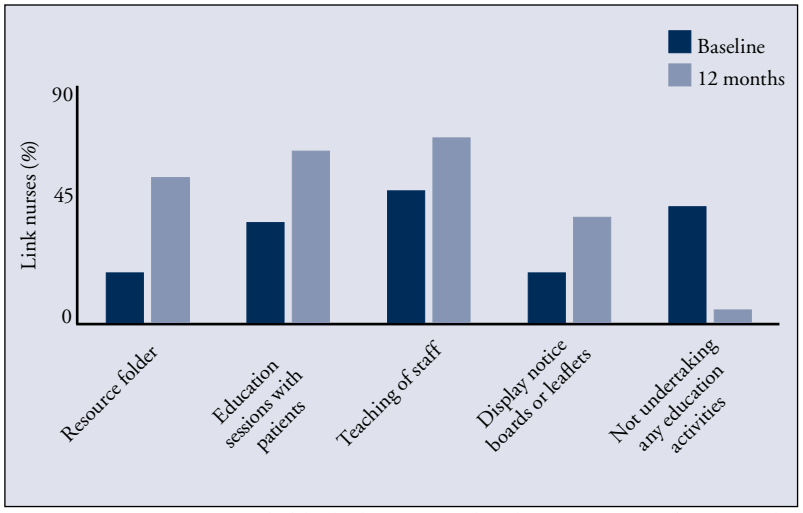


*Figure 1. Activities provided by link nurses at baseline (n=16), and 12 months after the commencement of the link nurse project (n=20).*

It should be noted that keeping link-nurse programmes current, and participants motivated, requires sustained efforts by all stakeholders. Two link nurses from the project described here have recently been employed within the local DSN team as clinical nurse specialists in diabetes. Framing a link nurse programme as being advantageous to career progression and succession planning may provide another source of motivation.

This article indicates that the use of a structured link-nurse programme can certainly be used to improve staff knowledge. Future work will need to focus on continuing the efficiency of this diabetes link-nurse programme, and on the demonstration of improved inpatient diabetes care attributable to the programme. ■

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