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Tackling the workforce crisis in district nursing: can the Dutch Buurtzorg model offer a solution and a better patient experience? A mixed methods case study

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ABSTRACT

Despite policy intentions for more healthcare out of hospital, district nursing services face multiple funding and staffing challenges, which compromise the care delivered and policy objectives.

Objectives What is the impact of the adapted Buurtzorg model on feasibility, acceptability and effective outcomes in an English district nursing service?

Design Mixed methods case study.

Setting Primary care.

Participants Neighbourhood nursing team (Buurtzorg model), patients and carers, general practitioners (GPs), other health professionals, managers and conventional district nurses.

Results The adapted Buurtzorg model of community nursing demonstrated feasibility and acceptability to patients, carers, GPs and other health professionals. For many patients, it was preferable to previous experiences of district nursing in terms of continuity in care, improved support of multiple long-term conditions (encompassing physical, mental and social factors) and proactive care. For the neighbourhood nurses, the ability to make operational and clinical decisions at team level meant adopting practices that made the service more responsive, accessible and efficient and offered a more attractive working environment. Challenges were reported by nurses and managers in relation to the recognition and support of the concept of self-managing teams within a large bureaucratic healthcare organisation. While there were some reports of clinical effectiveness and efficiency, this was not possible to quantify, cost or compare with the standard district nursing service.

Conclusions The adapted Buurtzorg model of neighbourhood nursing holds potential for addressing issues of concern to patients, carers and staff in the community. The two interacting innovations, that is, a renewed focus on patient and carer-centred care and the self-managing team, were implemented in ways that patients, carers, other health professionals and nurses could identify difference for both the nursing care and also the nurses' working lives. It now requires longer term investigation to understand both the mechanism for change and also the sustainability.

Strengths and limitations of this study

- Although a single site, the mixed methods (interviews, observation, analysis of patient records and internal reports and audits) provide multiple perspectives and add to the strength of the evidence.
- The use of routinely collected patient level data was a limitation as it did not include measures of case-mix, for example, diagnosis, medical acuity or proximity to death or clinical outcomes.
- We could not address questions of cost-effectiveness for a number of reasons including that the new model was in the implementation stage and that as a complex intervention outcomes for district nursing are not clear cut.

BACKGROUND

Healthcare systems across the world are seeking to increase primary care services in order to address changing population health needs and contain rising healthcare costs.[1] In some countries, this includes the provision of home visiting nurses who are named variously as home healthcare, visiting nurses, public health, community health and district nurses (as used in the UK). Visiting nursing services serve mainly older adult patients with chronic conditions and disabilities who are housebound,[2] although in some countries (see, eg, Ireland[3] and Japan[4]), they also provide maternal and child health services. The nursing care covers a spectrum of activities from education, teaching, technical care and physical and psychological support to case management that can address the management of acute illness, multiple long-term conditions or palliative care.[2] Visiting nursing services therefore have the potential to help older people with chronic conditions remain in their own homes rather than be admitted to hospitals or care home facilities, which is a key element of the International Plan of Action on Ageing adopted by many nations.[5]

Visiting nurses are always a small group in any national nursing workforce (eg, 7%, 9% and 13% in Australia, the UK and the USA,

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respectively)[6–8] Attracting and retaining nurses in home visiting services is a recognised problem.[9–11] Many interacting factors affect nurse turnover, but there is strong evidence that individual stress and autocratic managerial styles are influential in decisions to leave.[12] One model of visiting nursing services that it has been reported to both deliver high levels of patient satisfaction and also high staff satisfaction is that of the Dutch Buurtzorg organisation.[13] This social enterprise organisation uses a patient-centred model of care combined with self-managing teams of visiting nurses. A central tenet has been 'humanity over bureaucracy', that is, giving authority and responsibility to the frontline nurses supported by small functional back office support without creating tiers of management and associated expensive overheads such as offices.[14] The patient-centred model prioritises relationship-based practice with continuity in nurse provider (in contrast to tasks split between different grades of staff or services) and is directed at empowering patients.[14] A review of the Dutch evidence and applicability to the USA reported 'Buurtzorg has earned high patient and employee ratings and appears to provide high-quality home care at lower cost than other organizations' (p. 8).[15] The Buurtzorg model has attracted interest in many countries including the UK[16] where there are acknowledged problems in both meeting demand for these types of services and also in attracting and retaining nurses to work within them.[17] This paper reports on the evaluation of a pilot implementation of a Buurtzorg model of district nursing (DN) in a single, inner city site in the English National Health Service (NHS). This pilot within an NHS organisation in London was the first in the UK.[18] The NHS is a tax-funded healthcare system, free at the point of delivery. The overarching research question was one of feasibility of such a model in DN in the English NHS setting. Supplementary research questions were concerned with the potential impact on nursing practice, patient and carer satisfaction and outcomes, about the organisational experience of implementation, as well as questions as to the types and availability of patient level data required to consider cost-effectiveness.

METHODS

A mixed methods study was undertaken in a single case study.[19] This drew on the Donabedian framework for judging quality in healthcare, that is, criteria of acceptability, equity, effectiveness, appropriateness and patient safety.[20]

The intervention of interest was the new team, known as the neighbourhood nursing (NN) team, who worked to the adapted Buurtzorg model still within a larger bureaucratic organisation. The first three members of the team, with the coach, were recruited and started visiting patients in November 2016. The role of the coach was to facilitate the team to be self-managing. The team visited patients who were registered with one of three general practices and lived within a 20 min walk of their office in a socioeconomically deprived area of inner London. The team recruited new members throughout the first 6 months until there were nine at which point they split into two teams, one covering a new area. As a self-managing team they made all operational decisions in weekly meetings conducted using Buurtzorg principles, including voting.[21] Their employing NHS Trust had a DN service of around 200 nurses and healthcare assistant posts and at the time of the implementation a vacancy rate of 40%. The DN service was organised into teams each with a senior nurse. Each of these senior nurses reported to locality manager who in turn reported to another level in the organisation, which was only one of a number of divisions in the larger organisation.

Methods of data collection (from January 2017 to July 2017) included: semistructured individual interviews, group interviews, observation of nursing practice and team meetings, analysis of internal documents and anonymised patient records. Potential participants were approached in the first instance by the NHS Trust and details of those willing to take part were passed to the study team. Interviews (face to face or by telephone as preferred) were conducted with patients and carers (n=14, by MC) as well as general practitioners (GPs), other health professionals and managers (n=10 by FR). Topic guides were used that addressed questions of individual experience of the NN team, views on the way in which the new model was working, any contrasts observed with the standard DN services (comparative group) and any impact for patients, carers or wider services. Interviews were digitally recorded or notes taken as preferred then transcribed verbatim and anonymised. Group interviews, using adapted nominal group techniques (NGTs),[22] were conducted with the NN team on a monthly basis by VMD. A single group interview was also conducted with a locality DN team. NGT captures data contemporaneously on flip charts. The charts were transcribed, and any identifiers were removed. Analysis of transcripts was facilitated by NVivo 10 software. All interview materials were thematically analysed, based on the data-driven inductive approach,[23] in an iterative and reflective process by three researchers (MC, FR and VMD). Disagreements were resolved through discussion with the wider team and amended accordingly. Observation of NN and DN team nursing practice was undertaken by an experienced observer of DN practice (MS). Observations were conducted over 8 days of entire shifts with four NN and four DN team staff. Observations were recorded contemporaneously using validated tools for judging complexity and quality of patient care.[24] Six NN team meetings were observed, and field notes were taken. Anonymised patients electronic records of the NN team and a comparable number from DN team patients were requested with data fields to allow comparison of nursing activity and outcomes for patients with similar levels of complexity. Unfortunately, for reasons outlined in the discussion section of this paper, these were not available. Anonymised records of 100 NN team patients were given

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to the research team with specific data fields: age, gender, reason for referral, nursing activities, times of contacts and discharge (not free-text clinical notes). Data were entered onto an SPSS database and descriptive analysis only conducted. Internal documents and reports were analysed for data pertinent to the questions of interest. Reporting in this paper uses standards for reporting organisational case study research (see online supplementary file 1).[25]

Patient and public involvement

Patient and public involvement was through the funding body's steering committee for the pilot rather than directly to the evaluation.

RESULTS

The multiple sources of data enable us to report findings from different perspectives: patients and carers; NNs and managers; other health professionals and from the observation of practice and patient records.

The patient and carer perspective

Patients and carers reported high levels of satisfaction with the NN team. '*The care the neighbourhood* [nurses] *giving is first class*', patient 9. Patients commented on the willingness of the nurses to listen and address the needs of the patient.

> That's my kingpin [the nurse], because she's like you [the interviewer], she sits down and listens and she doesn't…, you start a sentence, she let me finish like you do. Patient 3

The proactive approach of the nurses of working on the problems the patients identified was positively commented on by many of those interviewed:

> They [the NN nurse] have come in and they have pushed the whole thing [the care required to support a patient with a stroke] into shape and knocked it into shape and got on with doing the things which we'd been waiting six or eight, 12 months for things to happen…. And they'll explain what they've done like 'I've phoned your GP'. Carer 10

Eight patients had had previous experience with the DN service, '*I had them* [district nurses] *in the past and they were quite good as well*', patient 5. However, they were all able to point to negative experiences of the DN service resulting in poor clinical consequences. These were:

- A lack of continuity in nurses attending them and its impact on their care.
- Brief visits with a concomitant lack of attention to any problem beyond that the nurse had attended for.
- Lack of follow-up to initial visits or subsequent care.
- Difficulties in contacting the nurses.

All contrasted their NN team experience with that previous experience and described the difference now: continuity in the nurse, which made addressing clinical issues more straightforward, attention paid to all their concerns and questions, follow-up of visits and plans (with communication back as to what had been done or was going to happen) and direct contact details to the nurse (and NN team).

> And now we have the neighbourhood nurses… the new system is so different, it's like cheese and chalk. Patient 7

Other healthcare professionals' perspective

Positive care outcomes were reported by GPs as well as positive feedback they had received from patients and family.

> They've been especially good for the end-of-life patients… and I think the family have found that good support generally, as well. GP 3

They described a period of learning to work together with the new team but noted some differences from the DN team in that the NN team came to them with patient problems and identified solutions rather than just problems. '*They do seem to be more proactive, I think, in care*', GP 1. Specialist nurses reported positive patient clinical outcomes (eg, improvement in long-term condition management not previously achieved), which they attributed to the NN team way of working.

> They have made such a difference with some of the most difficult to engage people with mental health problems and other long term conditions. Specialist nurse 3

Observing the care

Independent observation of the nursing practice confirmed that the NN team nursing practice was very different from the DN team practices, but it was also noted the NN team had a small patient caseload at that point in time in comparison with the DN team.

> It was clear to the observer that the NN team had a different approach to care. All nurses seemed to have a very personal relationship with their clients. They were often hugged and kissed by the client. Many clients gave unsolicited praise for their nurses citing how much they appreciated the continuity of care and the relationship they had with the nurse. Many patients were telephoned before the visit and often a time for the visit was negotiated. For almost every patient, each NN team nurse asked if they could get them anything to eat or drink and were quite happy to do this for the patients on some occasions. During the visit the NN nurses placed much more focus on the total care of the patients than most of visits observed of the DN nurses. They also spent time offering health promotion and preventative advice. For the patients seen with the NN nurses the communication with the social carers seemed to be fuller and more inclusive than that observed with the DN team

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Table 1 Characteristics of the patients of the NN team and the DN service

	NN team (%)	DN (%)
Female	50 (62.5)	12 884 (60)
Male	30 (37.5)	8531 (40)
Age groups (years)		
<25	0	99 (<1)
25–34	0	195 (1)
35–44	1 (1.4)	417 (3)
45–54	5 (7.0)	1132 (5)
55–64	14 (19.7)	2052 (10)
65–74	15 (21.1)	3389 (16)
75–84	22 (31.0)	6416 (30)
85–94	14 (19.7)	6782 (32)
95–106	0	945 (4)

DN, district nursing; NN, neighbourhood nursing.

> for example explaining how best to help the patient to mobilise more. Observer report

Inefficiencies in recording of care and duplication between home visiting nursing services were observed in the DN team. In contrast, the NN team had changed their practices to be as efficient as possible and ensure continuity in nurses, avoiding duplication with other services.

Recorded care

Records of 100 patients referred to the NN team over 6 months were examined (97 following removal of duplicates). Seventy-four had been referred by GPs but reasons were not given. Eighty of these patients received care from the NN team (reasons for not receiving care included admission to hospital or hospice). The majority were female and aged over 75 years (table 1). Comparative patient characteristics are provided for the wider DN service for 12 months covering the same period.

The patient records did not use any classification system for patients' diagnosis, patient acuity or complexity of nursing activity. The NN team recorded 269 face-to-face appointments with patients and 2267 telephone and follow-up telephone consultations. In contrast, the DN teams rarely recorded using telephone consultations with patients (table 2). Activities ranged from health promotion to palliative care. In contrast to the DN team, the NN team were providing personal care and meal preparation in the short term, while local authority-funded care packages were established (table 2).

Table 2 NN and DN team types of contact

Activities	NN team, of 2536 recorded contacts (%)	DN team, of 303 510 recorded contacts (%)
Telephone and follow-up telephone consultations	2267 (89)	135 (0.04)
Meal preparation	62 (2)	57 (0.02)
Personal care given	77 (3)	120 (0.03)

DN, district nursing; NN, neighbourhood nursing.

The nurses' experience

The NN team staff described their experience in very positive terms '*I enjoy every day – every day is a pleasure*', NN 1. They reported their satisfaction in their work came from positive patient feedback, from positive feedback from GPs and other health professionals and from working together collectively to provide the service.

> She [family carer] told me we had managed to do things for her [a relative] by [detail of nursing care and organising help from another service] that had really changed their lives and she felt so much better. That no one before we were involved had managed this. NN 3

The observed NN team meetings with their coach demonstrated the ways they worked as a team in making operational decisions. The NN *team* worked as just that—a team providing care for patients—which those who had worked in DN services were able to pinpoint the difference. They described their DN team experience had been that each staff member had their list of patients for the shift, and the responsibility was theirs alone. There had been no sense of collectively problem solving or helping each other to complete the necessary work in that shift. The NN team also paid attention to their work–life balance; for example, they were observed in team meetings to agree time back in lieu for extra hours worked. Many of the working practices the NN team adopted addressed the issues that the DN nursing staff raised in the NGT interview as aspects they disliked about their jobs (table 3).

The NN team members also reported their experience was very challenging in learning to work as a self-managing team. Some nurses applied for NN team jobs and then declined job offers following interview and others took up posts and subsequently left. The NN team described having to '*unlearn*' dependent behaviour on managers and also having to '*learn*' how to make and accept decisions as a team. This included learning how to manage differing opinions in a group and commit to the decisions of the team. It was evident in some observed team meetings that differences of opinion between team members were not always comfortable situations and that simple decision making could be protracted and voting did not always resolve the situation. Some of the NN team questioned longer term issues about the nature of 'flat' structures with salaries fixed on their previous employment and as yet no clarity on career and financial progression.

Challenges were also reported in the extent the wider organisation recognised the concept of a self-managing team. '*I'm surprised after all these months that* (managers in the wider organisation) *are still trying to manage us,*

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Table 3 Frustrations of DN team members as addressed by the NN team

Frustration about their job expressed by the DN staff	The NN team way of working that addressed the frustration
Lack of time to complete the work.	The NN team agreed flexibility in their working hours to meet the patient need and a caseload they could manage.
Multiple, changing nursing staff providing care.	The NN team had model of a named staff member to patient.
Lack of communication about patients and their whereabouts, for example, attending hospital appointment.	Patients had named NN nurse telephone number and that nurse communicated directly with patients to arrange time for appointment visit.
Lack of ability/permission to innovate.	The decision making with the NN team allowed new ideas to be tried.
Lack of flexibility in the staff rota agreed at senior levels 6 weeks ahead.	NN team rota agreed in weekly meetings between the nurses and changes made as long as the staffing required was available.
Lack of extra pay or time in lieu for extra hours worked.	The NN team agreed time in lieu given to individuals for extra hours worked at their weekly meetings.

DN, district nursing; NN, neighbourhood nursing.

tell us what to do', NN 2. The NN team stressed how important a role the coach was in supporting them to be a self-managing team and also being a '*buffer*' between the team and the wider organisation. The NN team staff stressed that '*back office*' support should be in place before a nursing team commenced. The lack of information technology systems to support mobile working (a current project in the wider organisation) was particularly irksome to the NN team especially when compared with that they had observed in the Dutch Buurtzorg service.

The managers' perspective

There was strong commitment from the leaders and managers to testing and championing this model. At the same time, there was curiosity and questioning as to the value and impact of an adapted Buurtzorg model. While the '*team and delivery*' was seen to be working well, all interviewees in different ways pointed out that '*the headaches are the organisation itself*'. Some interviewees reflected on the readiness of the wider management cadre and administrative and support departments to embrace the concept of self-managing teams. The coach role was viewed as critical as was back office business support. The impact on costs was reported to be too early to assess. The ways to measure impact on costs were being discussed by managers. There were interesting suggestions '*need to be nuanced in how to evaluate costs…not just about costs also productivity*'. An example was given to illustrate this point, '*If a patient has been on the caseload for years with a twice a day visit that has been reduced to once a week because now* [they are] *self-managing, that is so much better*'. Other aspects were also discussed such as the rate of processing patient referrals '*massive opportunity to save on paper and time from streamlined decision-making*', patient hospital readmission rates, the number of serious incidents and patient complaints as well as the friends and family test.

DISCUSSION

This study found that an adapted Buurtzorg model in the English NHS was feasible and acceptable to patients, carers, GPs and other health professionals, as well as preferable for many patients to current delivery models. The ability to make operational and clinical decisions at team level meant adopting practices that made the service more responsive, accessible, efficient and, for some nurses, attractive to work in. Challenges were reported in relation to the recognition and support of the concept of self-managing teams within a large bureaucratic healthcare organisation. While there were some reports of clinical effectiveness and efficiency, this was not possible to quantify, cost or compare with the usual delivery of DN service.

The strength of this study was the use of mixed methods that allowed the research questions to be addressed from multiple perspectives and types of data. The study was limited to a single site and by using routinely collected patient-level data. These data did not include diagnosis or measures of casemix to categorise both complexity in the patient (eg, through multiple conditions) and also medical acuity or proximity to death. It should be noted that most NHS organisations do not routinely collect this type of data about DN patients.[17] The NHS use of block contracts for funding DN, rather than fee or tariff payment by type of patient or type of activity, does little to promote such classification. This means there is no direct cost per patient to the NHS, as there is for hospital care, and so no clear, standardised costs to set beside any outcomes data. The Dutch Buurtzorg organisation uses the Omaha system of patient classification and nursing activity.[26] The Omaha system was developed in the USA as a structured classification and outcome measurement system.[26] The nature of community nursing care is relational and encompasses complex interventions, which are difficult to measure (compared with a single disease or single pill evaluation). Therefore, the issue of cost-effectiveness is not clear cut. Outcome measures are rarely

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quantified. Effectiveness of community nursing is often linked to claimed benefits of reduced hospitalisation of patients after community nursing involvement. However, the evidence for this effect is limited even where a narrower group of patients has been studied and where hospital admission avoidance is the key outcome.[27 28]

While there is reported high levels of interest in the Buurtzorg model of DNin the UK and other countries such as the USA, Japan, China, Sweden and outside of the Netherlands,[13] there is no published or grey literature evaluating its implementation that we were able to find. The reports of successful pilots in other countries, such as Japan, on the Dutch Buurtzorg website are not accompanied by details.[29] Other reported pilots in the UK are at early stages and have not published any findings.[18] A Klynveld Peat Marwick Goerdeler (KPMG) report of the Buurtzorg service in the Netherlands identified lower monthly costs per patient, shorter duration of care, higher hourly costs but overall lower median costs over the total episode of care than other home nursing services.[30] This early view evaluation study was not able to address questions of cost for a number of reasons not least the evolving team, practice and administrative support. To address the cost and cost-effectiveness questions in the English NHS setting would require scaling up the implementation of Buurtzorg in UK community health services and a longitudinal study with a large number of patients to give statistical confidence in the results. Investigation of impact on issues such as staff retention also requires longer periods than the early view.

Potential explanations for the positive reception lie within three interacting mechanisms: first, the organisational permission to refocus on patient-centred care, second, the reduction of management and enabling operational decision making of the self-managing professionals and finally the smaller number of patients in relation to staffing numbers. These require further investigation over longer periods of time and with more than one team, preferably in multiple settings within the NHS.

CONCLUSION

The adapted Buurtzorg model of community nursing holds potential for addressing issues of concern to patients, carers and staff. From the patients' and carers' perspective, these were issues in relation to lack of continuity in care provision, lack of support in attending to interacting multiple long-terms conditions (physical, mental and social) and lack of proactive care navigation. From the nurses' and managers' perspective, these were issues in relation to the quality of nursing care, low nurse job satisfaction and consequent unattractiveness of community nursing. The two interacting innovations, that is, a renewed focus on patient and carer-centred care and the self-managing team, were implemented in ways that patients, carers, other health professionals and nurses could identify the difference it made to both the nursing care and also the nurses' working lives. It now requires longer term investigation to understand both the mechanism for change and also the sustainability.

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Competing interests None declared.

Patient consent Not required.

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