EVALUATION OF THE NEIGHBOURHOOD DISTRICT NURSING PILOTS IN WALES

Final Report
for Cwm Taf Morgannwg University Health Board, Powys Teaching Health Board and Aneurin Bevan University Health Board

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Contents

Acknowledgements 1

Introduction 4

The Patient Story 8

High Level Recommendations..11

Recommendation 1:..12

Embed a person-centred holistic approach to care that promotes reablement and independence. 12

Recommendation 2:..15

Develop a NDN workforce with a range of skills and career progression to meets the needs of the local population. 15

Recommendation 3:..21

Encourage NDN teams to use local authority population assessments and local GP data to identify sustainable generalist and specialist nursing skill sets and training needs for their practice. 21

Recommendation 4:..23

Review the team leader role to better implement the Wales District Nursing Principles in a local context whilst also supporting change management..23

Recommendation 5:..25

Harness community resources to benefit patients, their families and the NDN service. 25

Recommendation 6:..26

Provide a coaching and mentoring role to support individuals and service development. 26

Recommendation 7:..27

Develop an all-Wales NDN community of practice (COP) to share knowledge, learning and good practice. 27

Recommendation 8:..29

Embed information technology and a longitudinal core dataset into Neighbourhood District Nursing service delivery across Wales..29

Conclusion 32

To what extent have all the elements of the NDN Pilot proposal been delivered effectively?........................32

What difference does the NDN model make for people, staff and practitioners and the wider stakeholders?...............32

What lessons have we learned from Buurtzorg?..32

ANNEX A: letters of grant to ABUHB, Powys, CTMUHB..33

ANNEX B Methodology 45

ANNEX C: The Realist Review 55

ANNEX D: The Service Data Analysis 88

ANNEX E: The Qualitative Findings from Document Analysis, Staff and Stakeholder Principal Findings. 96

Case study 1- Aneurin Bevan University Health Board (ABUHB) 96

Case study 2 Cwm Taf Morgannwg University Health Board (CTMUHB) 115

Case study 3 Powys Teaching Health Board 140

ANNEX F: Bibliography.....165

Introduction

This report summarises our evaluation of three Neighbourhood District Nursing (NDN) Pilots at Cwm Taf Morgannwg University Health Board, Powys Teaching Health Board and Aneurin Bevan University Health Board. These pilots were funded by Welsh Government (Wales Pilot of the Buurtzorg Approach Neighbourhood District Nursing) in 2017 to test Neighbourhood District Nursing in Rural, Valley and Urban locations. Each pilot was allocated £200k for each of the financial years 2018/9 and 2019/20 to undertake the pilots (ANNEX A).

The pilot NDN teams provide home-based nursing care to people living within a defined geographical area linked to named primary care teams. NDN teams typically consist of Registered Nurses (RNs) who have completed a specialist professional qualification in community nursing (SPQ) – these are usually team leaders, RNs, health care support workers and administrative staff. Staff will have completed additional training to support individuals and their families at home e.g., some RNs will be independent prescribers, others will have been trained in using specific equipment e.g., Doppler imagers to monitor blood flow in lower limbs. Referrals for NDN services can come from GPs, other allied health professionals e.g., Occupational Therapists, statutory public services and individuals/families may refer themselves.

As part of the NHS in Wales, NDN teams incorporate the principles of the Welsh Government Prudent Healthcare initiative. NDN staff encourage people to look after and be responsible for their own health and well-being with support from the health service, statutory public teams and voluntary teams. NDN is free at the point of need and supports all citizens in Wales. NDN teams provide quality assurance information to senior nurse managers who are accountable to NHS Wales colleagues and ultimately Welsh Government.

In addition to providing nursing care, NDN teams support the public to lead healthier lifestyles and prevent ill health at an individual or population level. They put people at the centre of decisions about their own health and promote the co-production of decisions about the right type of care they need and ensure they can access the right information and advice at the right time. The teams encourage people to consider what care they need, including whether they can look after

themselves (self-care), and to use the most appropriate service to meet their clinical need.

Based on our findings we make eight recommendations about the model, its delivery and sustainability going forward.

The purpose of the evaluation was to understand the mechanisms of change and provide a robust evidence-base to transfer the principles across Wales. We did this by asking two overall questions:

- **To what extent have all the elements of the NDN Pilot proposal been delivered effectively?**
- **What difference does the NDN Model make for people, staff and stakeholders?**

Due to COVID-19 lockdown we were unable to collect data from individual people who received the NDN services. Therefore, this evaluation provides a perspective from staff and stakeholders who delivered the services, received referrals from the services or worked closely with NDN pilots to develop and manage the changes required. Consequently, the patient voice in this evaluation has been sought through the document analysis and interviews resulting in an aggregated patient story which comprises of varying patient experiences.

The voices of NDN staff and stakeholders are heard throughout this evaluation. They were honest in their reflections and generally valued the experience.

'It's nice to be involved in something that may develop the service a bit. I feel like district nursing has been the same for a long time now really, and it's nice to somehow just inch it forward a little bit in some ways. I think that's been excellent, and really nice to be a part of. [...]. I think it's been lovely to be a part of that and to hopefully progress district nursing a little in [health board] (Interview NN 20.10.27cw)

The evaluation was completed from end of July – November 2020 and comprised of three components:

- **A realist review of the published literature which included 37 published documents** to provide an evidence-base to compare the study findings against.
- **A range of qualitative methods used throughout the three pilot sites, including a range of**

documents (N=85) patient stories (N=4) and interviews (N=29).

- **A range of service data collected by the NDN Teams during the pilot phase t**o identify whether there were any differences between the NDN pilots and the standard district nursing service.

Elements of the NDN model observed can be seen in the Neighbourhood District Nursing Pilots sites. We would add the role of a NDN Community of Practice to these lists to promote sharing information, knowledge and best practice across Wales. The NDN model should be underpinned by the District Nursing Staffing Principles.

- **Aneurin Bevan UHB**
  - Person centred assessment and joint contract in care
  - Continuity of care e.g., the virtual ward
  - Individual and family empowerment promoting independence and reablement
  - Distributed coaching and mentoring
  - Enabling self-managing teams
  - Compassionate leadership
  - Skill mix to meet the needs of the geographical population
  - Use of local authority population assessment and local service data to drive service changes
  - Trust and confidence
  - Embed information technology including e-scheduling
- **Cwm Taf Morgannwg UHB**
  - Person centred assessment and joint contract in care
  - Continuity of care e.g., the virtual ward
  - Individual and family empowerment promoting independence and reablement
  - Distributed coaching and mentoring
  - Enabling self-managing teams

- Compassionate leadership
- Trust and confidence
- Skill mix to meet the needs of the geographical population
- Harness community resources and social prescribing
- Embed information technology including e-scheduling

- **Powys Teaching THB**
  - Person centred assessment and joint contract in care
  - Continuity of care e.g. the virtual ward
  - Individual and family empowerment promoting independence and reablement
  - Distributed coaching and mentoring
  - Enabling self-managing teams
  - Compassionate leadership
  - Trust and confidence
  - Skill mix to meet the needs of the geographical population
  - Harness community resources and social prescribing
  - Embed information technology including e-scheduling

In this final report we acknowledge the challenges of COVID-19 and these are accommodated in our eight recommendations. A description of the methodology and methods we used to undertake this evaluation are in Annex B.

The Patient Story

This is an aggregated patient story from 4 patient experiences sourced from documents and staff/stakeholder interviews (Document DA4, DA20, DA22; Interview NN CTMUHB 20.10.28cw).

The Neighbourhood District Nursing (NDN) team had a referral from a Practice Nurse to go and administer insulin to Mrs Jones. She had been administering her own insulin for the last thirty years. However, her mental health (bipolar defective disorder) was now impacting on her ability to manage her insulin effectively as she was not administering the correct dose each time. The GP had already referred her to Mental Health services to review her condition. Mrs Jones had been attending the Practice Nurse for a sometime with ulcers to her foot.

Mrs Jones lived with her husband, their son lived nearby and visited daily. Discussion with the Practice Nurse explored whether the husband and son could support Mrs Jones, as there were no concerns around her self-administering the insulin just on the dose administered. The NDN team agreed to take the referral to complete their own holistic assessment. This was in addition to asking Mrs Jones what mattered to her and to define a good outcome for herself. What mattered to this lady was keeping her family routine and accessing her community. She wasn't active in her community because of anxiety about her long-term conditions. The NDN considered their duty of care and whether appropriate referrals should be made to other professionals.

Mr and Mrs Jones were retired farmers and they continued with their normal routine built up over the years that started with getting up at 5am. Mrs Jones would then test her blood sugar level and give herself the insulin. Their main meal was at 2pm when their son visited. Bedtime was around 8pm. As part of the neighbourhood nursing care principles on who is best placed to provide care, discussions were had with Mr and Mrs Jones and their son. It was agreed that Mr Jones would support Mrs Jones in the morning to make sure she took the correct dose as prescribed. The NDN team would visit at 2pm every day to observe Mrs Jones administering the correct dose until her blood sugar was stable. Mrs Jones was quite keen for the NDN not to be involved. She did not feel that there was anything wrong and it would be disrupting the family routine if the NDN were to come at 9am and 4pm in line with their usual practice.

During the visit, the NDN completed Mrs Jones' wound care and assessed the family's meal planning, food preparation and cooking to see if a referral to the dietician would be appropriate. They were having well balanced meals and their son provided fresh fruits and vegetables.

The NDN team were able to discharge Mrs Jones back to the Practice Nurse to monitor her diabetes once they reduced and stabilised her HBA1c to an acceptable level. Her leg ulcers had also healed during this time.

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Mr Davies is 85 years old and has been widowed for 5 years. He continues to live alone, and his son visits once a day. Mr Davies is on the NDN caseload for change of catheter and weekly leg bag changes. Mr Davies used to manage his own leg bag, but he didn't always remember when to do it. Mr Davies is fiercely independent and didn't want strangers (carers) coming into the house. As part of the neighbourhood nursing care principles and who is best placed to provide care, a discussion was had with Mr Davies and his son and he agreed to change his dad's leg bag every week. The NDN would continue to visit to change the catheter as planned. Initially this plan worked but the son raised a concern that his father was not getting the support he needed and the responsibility for changing the bag was 'too much'.

After speaking with the family, a meeting was arranged at Mr Davies' home to discuss what alternatives could be put in place. Mr Davies was in receipt of attendance allowance and agreed that this could be used to provide care by a domiciliary care agency to come in once weekly and change his leg bag. The son made the arrangements. Mr Davies felt this was a very good solution because it meant that he needn't stay in and wait for the NDN to arrive because he liked to go out for a walk in the afternoon. Mr Davies' son also felt this was a good solution because it was thought that the carer may be able to help with other activities of daily living or support in the future.

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Mr Jenkins is 90 years old and his son has not been able to visit daily for some time. His eyesight is deteriorating, and he has become increasingly isolated. The NDN team following their last visit made a referral to their local community connector (third sector) asking for a befriending service. The community connector was very familiar with the local area and knew of neighbourhood groups and volunteers that might be right for him.

However, following a ‘what matters to me’ conversation with Mr Jenkins the CC found that what mattered to him was how he was going to do his shopping. Mr Jenkins was having ’meals on wheels’ deliveries every day which arrived at lunchtime. He usually walked up to his local shop in the afternoon every few days to buy sandwiches for his tea. He hadn’t been feeling very well over the last week and only had one sandwich left in his fridge for that evening. The Community Connector immediately organised a local volunteer (someone he knew from the same street) to visit and to go shopping for Mr Jenkins, ensuring he had food for the interim period. Meanwhile, the Community Connector contacted Mr Jenkins’ son to discuss a permanent solution which would be acceptable to Mr Jenkins. His son made arrangements for a weekly shopper to visit and check that Mr Jenkins had enough in-date food in his cupboards. Once Mr Jenkins felt better the Community Connector made arrangements for a telephone befriending service to check in and call once a week. After 4-6 weeks, and with the weather improving, Mr Jenkins felt well enough to start walking up to the shop himself.

High Level Recommendations

Recommendation 1:
Embed a person-centred holistic approach to care that promotes reablement and independence.

Recommendation 2:
Develop a NDN workforce with a range of skills and career progression to meets the needs of the local population.

Recommendation 3:
Encourage NDN teams to use local authority population assessments and local GP data to identify sustainable generalist and specialist nursing skill sets and training needs for their practice.

Recommendation 4:
Review the team leader role to better implement the Wales District Nursing Principles in a local context whilst also supporting change management.

Recommendation 5:
Harness community resources to benefit patients, their families and the NDN service.

Recommendation 6:
Provide a coaching and mentoring role to support individuals and service development.

Recommendation 7:
Develop an all-Wales NDN community of practice (COP) to share knowledge, learning and good practice.

Recommendation 8:
Embed information technology and a longitudinal core dataset into Neighbourhood District Nursing service delivery across Wales.

Rationale for Recommendations

Here we provide the reasons for developing the high-level recommendations including learning from the literature review, what worked and what didn't work within the Neighbourhood Nursing Pilots in Wales.

Further information regarding stakeholder and staff principal findings, service data, and document analysis and realist review can be found in Annex B, C, D, and E respectively.

Recommendation 1: **Embed a person-centred holistic approach to care that promotes reablement and independence.**

'...*us going in is not necessarily best for that patient because you're limiting their empowerment or their self-esteem I think because you're coming in and you're taking over. You're not giving them the chance to say, 'well this isn't my body. This is what I want to do* (Interview, NN ABUHB 20.10.12dp).

'So instead of just accepting everything and doing everything it is more around asking the patient what they wanted to achieve in the long run and fashioning a care plan out of that. It's about a joint contract in care. I say about caseload again but a smaller part of it is that the caseload gets smaller but it's more appropriate so it's more complex and that's exactly what has happened with us to be fair' (Interview NN ABUHB 201015dp).

'The whole point of virtual ward as well is to try and prevent hospital admissions. I think everyone acts a lot quicker now. If the GPs have got any concerns with a patient or we have and we think, 'Oh, they're at risk of being admitted', we are very proactive now at working quickly to try and put everything in place that we can for the patient to keep them at home' (Interview 201029LC PTHB).

'Oh, I don't know. I would say it's [caseload] probably halved, 50-60 depends. It sort of goes up and down'. But say like 60 I would say' (Interview NN ABUHB 201016dp).

Literature review

Person-centred holistic assessment includes social, clinical and reablement approaches to care. By using a reablement approach this helps to support patient

self-management.

What worked?

Learning from this evaluation demonstrated that there had been a cultural change which was triggered by the Care Aims training, a focus on 'what matters to me' and the virtual ward. It is described by one member of staff as '*our big changing moment*' (Interview NN ABUHB 201016dp). As a result, NDN staff reported a reduction in caseload size as they gradually started to redefine their service criteria.

The Care Aims training is a four-day training programme that includes advanced clinical reasoning and decision making which focuses on the four ethical principles of duty of care. It provides staff with an opportunity to think about risk, wellbeing, how to engage in a person-centred care type conversation and developing goal-orientated plans. NDN staff took this a step further and included the 'what matters to me' approach, (see patient story).

There were two virtual ward models described, one using a weekly face-to-face approach and another using a daily virtual ward meeting with a weekly multi-disciplinary team (MDT) meeting, serviced by the virtual ward clerk. The three NDN pilots had varying experiences of the virtual ward but all valued the multi professional working.

What didn't work?

Not all staff had received Care Aims training or used the virtual ward. It was a challenge for NDN staff communicating with professions that hadn't been through this training. They felt the Care Aims training should be rolled out across the health boards and in HEI graduate and post-graduate education.

What difference does the NDN model make?

Both Care Aims and 'what matters to me' triggered a change in the conversation between NDN staff and the patient/individual and family, this helped to move NDN team members away from old habits of doing everything for the patient to promoting independence through a reablement approach. Care Aims influenced the assessment process, the care

plan and led to conversations which redefined the NDN caseload. It empowered the registrant to conduct a holistic assessment with the individual and their family at home triggering an understanding between ‘what matters’ to the individual and family, and the clinical need. This results in a co-produced care plan, which can lead to further positive impacts for individual outcomes and the NDN caseload.

Whilst the virtual ward strengthened the multi-disciplinary and multi-agency relationships through increasing face-to-face contact, making referrals easier, enhancing problem solving opportunities, and co-ordinating solutions. We are unable to say whether these approaches made an impact on patient outcomes. However, staff reported that they had contributed towards smaller caseloads.

Recommendation 2: **Develop a NDN workforce with a range of skills and career progression to meets the needs of the local population.**

'*We go in there for six, seven weeks, eight weeks we have gone in there for. So that's a long time for somebody who's normally quite young to have to stay in hospital. We've literally just left a patient now, who's finished the IV antibiotics and I've just been up there to do bloods and he was like 'you don't realise how much you girls have changed my life, that I was able to come home and you girls were able to come in, do my IV. You know support me and my family'. Otherwise, during this COVID situation he would have been stuck in the hospital. He's a young gent. A different way of looking at it really*' (Interview NN ABUHB 201016dp).

'I would say it's partly down to qualification. What tasks, what certain staff can do. Some of us are able to do somethings, than say some of the newer girls who've started. I might be allocated more say complex patients who are unwell and things like that' (Interview NN ABUHB 201016dp).

'...they [band 4's] weren't replacing the band 5s by any means at all, but they could take some of the workload off them, so they could maybe see more of the complex visits' (Interview 201112LR CTMUHB).

'...so, after perhaps I'd gone out and done a frailty assessment, there may be follow ups to that, whether it's going back and reviewing their observations, or going back and reviewing how they've got on with the therapist, or things along those lines really, so she's [Band 4] supported that side of things as well' (Interview NN PTHB 201027cw).

'...whilst we engaged with the patient upfront and we said, 'We will deliver all the care that you require', some of the expectations of the service were a bit too high for what we were able to provide. I think if we were to have our time again, we would invest more time in engaging with patients around what the district nurses can provide and perhaps introduce examples of what we can provide' (Interview NN CTMUHB 20.10.06sw).

Literature Review

Identified social skills for nurses to deliver a holistic assessment and holistic care delivery.
Self-managing teams based on qualifications requiring DN and whole team skill set (social and clinical) to meet patient geographical need.
Identified self-management skills, complex case and IT skills required for DN.
Mixed nursing team with back end system to maximise nursing resource for patient care.
Identify career progression/pathway if pursuing a flat structure.

What worked?

In this evaluation we saw that work was allocated according to qualifications and experience which matched the needs of the patient. Training needs analysis and matrix identified the skills required for each team and the revision of job descriptions. There were three types of skill development which supported the whole team: non-registrant (Bands 4, 3 and admin) skill development, general upskilling of the registrant team, and the role of the advanced nurse practitioner (ANP). These were supported by specific training programmes and the purchase of new equipment for example i-Pads, colour printers, bladder scanners, spirometers, oximeter, and thermometers. Being able to complete a full observation assessment for some NDN teams has made a difference to the way they are able to communicate with GPs.

Bridging the gap between hospital and home to promote continuity of individual care, avoid hospital admissions, make an impact on hospital waiting times and reduce 'hand-offs' to specialist nurses has resulted in new skills across all thee NDN pilots. Examples include: Mental Health First Aid (MHFA), giving IV antibiotics, Trial Without Catheter (TWOC) (including training to identify suitable patients for intermittent self-catheterisation), reducing infection experiences, whole team end-of-life care, verification of expected death, advanced care planning (ACP) (e.g. in care homes - QNI shortlisted 2019), implementation of NEWS/Sepsis Bundle with support of 1000 lives, and management of respiratory, diabetes and wound care to reduce the need to refer to specialist nurses. Developing these new skills and associated protocols warranted a multi-professional approach with NDN staff collaborating with specialist nurses, urology and continence services.

The Band 4 role descriptions were reported to align to the District Nursing Staffing Principles following a review of their skills and competencies. Described as *'an integral part of the team'* (Interview DATE LC PTHB). They were developed to support NDN RNs in a structured way with robust governance structures (policies and procedures) so that the NDN Band 4 would release time for the NDN RN to see more complex cases, for example delivering the care plan where appropriate following a frailty assessment by the NDN RN. The plans across all three NDN pilots were that they would undertake some/all of the following: administer insulin, urinary catheterisation, PEG feeds, PEG medication, suppositories, some catheter care, some wound care, prevention/early identification of disease (e.g. dementia, diabetes, heart failure, support the NDN RN with falls and frailty assessments). The NDN Band 3 role in ABUHB was described as supporting the team through undertaking phlebotomy and some simple wound care and support for 'double calls' i.e., where two NDN team members are needed to be present to deliver care. It was felt that having the NDN Band 4 role offered a valuable means for NDN Band 3 staff to progress and supported recruitment and retention. NDN staff reported that NDN Band 3 and 4 team members had freed up time for NDN RNs to focus on more complex care.

The admin role wasn't new to all the NDN pilot sites, some had existing admin support for 20 hours a week (9-1pm). For others it replaced a 'dwindled' resource that had been increased to 15 hours as a result of the NDN pilot. The admin role was described as providing stability and co-ordination in the office environment. This included managing the phones while staff were out on calls, inputting and managing information on WCCIS, uploading information onto the various scheduling systems used for allocating visits, auditing, data collection, ordering equipment/supplies and stock control, archiving, completing referrals, contacting and responding to queries (internal and external), supporting paperwork completion, allocating calls to staff, monitoring the email system, monitoring the Ad Astra referral system, updating staff with changes to visits, helping with sickness management, supporting the NDN team in managing their caseload, maintaining relationships and effective communication with other agencies including the third sector and community groups. In CTMUHB, the role is known as 'navigator' because they are also able to signpost people to resources outside the NHS provision (under supervision), linking

the NDN pilot sites with the third sector so that they become *'experts in what services are available in the community'* (Interview NN CTMUHB 20.10.06sw).

We learned that the ANP role had been developed in some NDN pilot areas and not in others. For some they didn't see an advantage to developing it within the NDN team when they could harness the skills from Rapid Response and Frailty teams, although they would appreciate working far more closely together. In another site they tried to develop a COPD nurse practitioner role but decided that the training would be better invested to upskill the whole team in the future. Whereas in Powys, two team leaders had completed the ANP education which had led them to explore the development of a specialist nurse frailty role in the future. This had prompted discussions about the need for an ANP in the community nursing teams, what it would look like and queries had been received from other DNs keen to undertake this role

What didn't work?

Band 4 roles were generally successful across all three pilot sites and described as 'excellent', although there was no longer a Band 4 role in one of the Powys THB teams as the member of staff had left.

Whilst all Band 4 staff were deemed as *'competent in the administration of insulin'* in one health board (Document DA1) the NDN team encountered what was described as a *'stumbling block'* around anaphylaxis management and the administration of adrenalin. They found it frustrating because they understood that the NDN Band 4 staff in the other two health boards were now able to administer insulin.

Whilst the role of the NDN ANP was successful in Powys, there was some caution expressed about the conflict between the team leader role and the ANP role carried out by the same person and how best to manage this. It was acknowledged that the team leaders were keen to carry on with the NDN ANP role but there was a question of priorities and where best the ANP role should sit within the GP cluster which needed further discussion.

What difference does the NDN model make?

We learned that the District Nursing staffing Principles had triggered a review of skill mix in the NDN teams and we saw in the documentation that there was commitment to a Band 7 supernumerary role. The Band 6, 4 and admin roles were reported to contribute to releasing time for NDN team leaders to undertake creative development work, team mentoring and coaching.

We've also learned anecdotally that the new skills developed during the NDN pilot have been appreciated by patients. '*We've had a lot of very satisfied patients that are no longer our patients'* (Interview NN 201015dp). The changes and increase in skills meant that the NDN nurses felt that their role was now *'more defined'* and *'was taken more seriously'* by hospital colleagues. In addition, the new skills repertoire was appreciated by non-NDN teams when they asked for help when they had identified a skills deficit in their own teams e.g. bladder scanning (Interview NN 201015dp).

Recommendation 3: Encourage NDN teams to use local authority population assessments to identify sustainable generalist and specialist nursing skill sets and training needs for their practice.

'to look at what their communities require. I think it needs to be focused on the needs of the community and without knowing what those needs are, then it's difficult to tailor the interventions to what's required' (Interview NN CTMUHB 20.10.06sw).

'The population needs analysis, the skills of the staff and a lot of areas just dived in and made the change whereas we didn't' (Interview NN ABUHB 12.10.20sw).

'I think it's like I said, engagement with staff and listening to staff. It's not a top-down approach definitely but bottom up and investing in the training and looking at the needs of the population and I think they are key' (Interview NN ABUHB 12.10.20sw).

'like I said about the mental health issue and the depression in the over 65s and in particular the housebound, we would never have known if we didn't do a population needs analysis. By

doing that we've instantly improved the mental health of our population. Even though we're not very good at capturing patient experience they are very good at highlighting if somebody is at home suffering from depression now' (Interview NN ABUHB 12.10.20sw).

Literature Review

Identify how staff are/can fit care to client need.

Need some form of population needs analysis to fit service to patient requirements

What worked?

One health board reported that they had spent the first year of the pilot undertaking a population assessment to identify areas of need where improvements could be made and the skills that the NDN teams needed to have to address these needs (DA5). Where there were separate specialist teams such as frailty, they linked them up to the NDN teams to make sure that the skills were present within the NDN team so that they could care for the identified need within the population. The population assessment also identified a raised incidence of depression (Document DA5). Consequently, the NDN team commissioned Mental Health First Aid (MHFA) training with MIND which helped them to confidently recognise the crucial warning signs of mental ill-health e.g. depression, anxiety disorders, substance misuse and psychosis. Mental health is now considered as part of the assessment process allowing the NDN team to proactively engage in early intervention and crisis prevention.

One NDN pilot site used local intelligence from a new system of data reporting about catheter related clinical incidents and Root Cause Analysis meetings to identify problems with long waiting times/delays for Trial Without Catheter (TWOC) appointments in the hospital urology service. There were negative impacts on the patient experience and patient safety from waiting too long e.g. increased infection risk and demand on urology leading to increased waiting times (Document DA21, DA23).

What didn't work?

Although not all NDN pilot sites adopted this approach, some reflection has been noted that it's difficult to tailor the intervention to what's required without focussing on the

community needs.

What difference does the NDN model make?

The NDN pilot provided the health board with an opportunity to test a proactive approach to care using both population assessment and local data in the planning and implementation stages to deliver needs-based solutions.

Recommendation 4: Review the team leader role across Wales to better implement the Wales District Nursing Principles in a local context whilst also supporting change management.

A senior nurse commented, *'We've given quite a fair amount of freedom to the teams involved. We've said to them, 'these are our thoughts, but you tell us what you need, you know your community better than what we do, the ball is in your court as to what direction this takes, and if you feel at any point that we're suggesting things that will not benefit your patient cohort then please tell us''* (Interview NN CTMUHB 20.10.06sw).

'I think [team leader] has very much led from the front and taken us with her. She really has yeah. She's been there when we have struggled or doubted, she's known we can do this. It is a benefit, and it has really benefited the patients. We've had patients who were say IV antibiotics, patients who've lost weight and gained something of their life and I think a lot of that has been through her continually going we can do this. You can do this' (Interview NN ABUHB 201016dp).

'We all do work as a team, our sixes and our sevens, they're out doing the calls with us. There's none of this our management are sat behind a computer just allocating calls, telling us do this and you can just ring them for advice. If you ring a six or seven, [team leader], and you say this is bothering me outright, okay we'll join up or I'll go the next day and I'll review it and come back to you and feedback. We are on a level, in a team, but I agree with [colleague], we do need that management that's taking you forward' (Interview NN ABUHB 201016dp).

'it's that confidence inside knowing that I feel more supported' (Interview ABUHB 12.10.20dp).

'Our communication strategy could have been a bit better, because they were often times where patients, or social workers then, would not be aware of the pilot and would still commission a care package for patients who we wanted to deliver the full care for and would have met the criteria under the pilot' (Interview NN CTMUHB 20.10.06sw).
'My previous deputy, she's gone to a new team. She has become a team leader so all this information and the knowledge that she's gained from here, she has taken on into her new team' (Interview NN ABUHB 201015dp).

Literature Review

Cultural change managed for DNs, managers and stakeholders e.g., HR and recruitment processes changed to be appropriate to the new culture.
Empowered DNs to be part of strategic decision making for service.
Governance structures needed for quality assurance.
Management communication mapping required inside and outside of the team.
Devolve budget management to the neighbourhood team

What worked?

We noticed throughout the interviews we conducted that there were elements of a compassionate leadership philosophy developing (West et al 2017). Staff and students reported a change in leadership approach during the NDN pilot. Leadership has manifested itself in several ways:

- staff feeling supported in delivering the Care Aims philosophy and service delivery (Interview ABUHB 12.10.20dp) and less fearful of complaints
- support with problem solving
- shared learning with multiple grades of staff including senior nurses creating a shared vision of the NDN model to be delivered
- increased autonomy, control and responsibility for the caseload

- feeling empowered and valued through investing in the team and service and team working.

It became apparent that staff felt confident because of the support they received, and this resulted in a 'can do' attitude. This confidence also came from them knowing that they had support from Divisional Directors, Nurse Directors and Chief Executives of the health boards. There were examples where NDN staff had been empowered to engage with the NDN service design from the beginning of the pilot.

What didn't work?

Things that didn't work so well were performance data collection and gathering patient outcomes. Senior managers across the three NDN pilot sites had met at an early stage of the pilot life to discuss data collection but this process was not agreed. Although great strides had been made in engaging and communicating with NDN staff through newsletters for example, there were times when stakeholders were not engaged or waned in their engagement. A joint communication strategy across all three NDN sites would have helped to address this issue.

Although there was some discussion in one NDN pilot site documentation about plans for devolved budgets this didn't occur.

What difference does the NDN model make?

The NDN pilot provided the health boards with an opportunity to provide their team leaders with coaching and a new and innovative model of care (Care Aims) with which they had to manage change with their staff. It provided opportunity to shift team leaders towards self-managing their teams. Sustaining and expanding the leadership model to include new approaches such as recruitment processes, communication strategy, marketing the service and data driven care will require further review of the role and the skills required.

Recommendation 5: Harness community resources to benefit patients, their families and the NDN service.

'There's a lot of problems that we can't solve as a district nursing service, but there are a lot of third sector organisations and volunteer organisations that really can offer a fantastic service that patients could benefit from. And I'll be honest, they've been a bit of an

underutilised resource for some of years, but we're really looking to tap into that because we feel their contribution is extremely valuable' (Interview NN CTMUHB 20.10.06sw).

'The third sector had a big involvement within the virtual ward. We often referred patients to the third sector, and the referral process, I would either do it whilst I was in the virtual ward or contact them after if it was a patient that I'd seen and it wasn't on the day that the virtual ward was taking place, so I could refer them in that way. But yes, they had referrals from district nursing, OTs' (Interview 201012LR CTMUHB).

'[name], I worked with [NDN], [NDN] would say this is part of the neighbourhood nursing and so I was aware it was going on. I think I talked to [name] then when I was in virtual ward about what that meant. I sort of had a picture in my head I think about what neighbourhood nursing would look like. I would get referrals from district nurses as well then' (Interview NN CTMUHB 20.10.28cw).

'I think by pulling the teams together, working with individuals, you share that information and I think that's got to be of benefit to the patients and their families and carers. Because, quite often, we see lots of people involved with an individual that's all doing their own bit, but no communication going on, so you might not know that the social worker is doing things tomorrow, you might not know that actually the connector's made a referral to Age Cymru. By pulling that all together within that Neighbourhood Nursing team and that kind of approach really benefits, it benefits us, in terms of our work, it also benefits the patient and their families' (Interview 201026CS PAVOdp).

Literature review

Relationships with carers and community neighbourhood is key.

Partnership and trust to develop a more co-productive care delivery model with carers/family. Negotiate role with carers and upskill carers to take on roles such as medicines, wound care etc. Develop wider social/community /neighbourhood assets and links.

Develop a social prescribing approach. Key to this is the RN role and holistic assessment. Draws on a model of neighbourhood resources, family and friends resulting in reduced

hours and costs

Use local networks, local assets to support living well in the community.

Identify the extent and type of co-location.

What worked?

Whilst clinical relationships have already been discussed and noted as strengthened by the introduction of the NDN model, particular mention has been made about the NDN pilots' relationships with the third sector (community connectors, compassionate communities etc). This was often through the virtual ward or through the community navigator/admin role. Structures like the virtual ward also gave third sector colleagues opportunity to learn about the NDN pilot. They resulted in service delivery such as described in the patient story at the beginning of this report. Meetings between NDN pilot staff and the third sector at regular intervals outside of the virtual ward environment were thought to be useful and had contributed to improving communications. This would help to understand if the relationship was working as expected.

What didn't work?

Not all NDN pilot sites had increased their engagement with the third sector and the community. Considering the development of initiatives such as compassionate communities, community connectors and social prescribing across Wales there will be opportunities locally to engage with the third sector and promote individual patient and family wellbeing where appropriate.

What difference does the NDN model make?

The NDN model through the Care Aims training challenged NDN staff to think about the role of the third sector in promoting individual health and wellbeing and how they could engage with them effectively.

Recommendation 6: Provide a coaching and mentoring role to support individuals and service development.

'it just seemed quite natural for the girls if they needed anything to come to us but there was

a lot of work from our point of view of getting the girls to think more independently. One of the most common phrases when they come in if they had a difficult patient or a difficult situation would be, 'a blue needs to go in to sort it out'. So, there was a lot of work which was a big thanks to the Care Aims training that was down to saying 'you're a qualified nurse, so you don't need a blue to go in, you're just as capable of having this conversation as I am'. So, there has been a big change in that as well' (Interview NN 201015dp).

'We were very lucky in that we had good support from our colleagues in the health board. Our specialist nursing colleagues helped us, particularly in our COPD work. So, our respiratory specialist nurses were very helpful and on board with the changes that we were looking to introduce, but also with our band four roles as well, in upskilling those. So, our diabetic specialist nurses, our bladder and bowel service, and our lead for medicines management, all contributed to making this pilot a success' (Interview NN CTMUHB 20.10.06sw).

'...that [coaching training] was more for myself and my deputy about how we managed the team, and having better conversations with them, and about empowering them to make better decisions and to make decisions more independently and for themselves, really. So it was, I suppose, what neighbourhood nursing in some ways is about, taking away that hierarchical view and empowering the team to make better decisions themselves' (Interview NN PTHB 201027cw).

Literature review

Team need to identify steps towards autonomous working.
Role of coach in supporting solution-focused problem solving, ways of working to support self-management, and developing governance mechanisms within the team.

What worked?

We noticed that a distributed role to coaching and mentoring was evolving across all three NDN pilot sites. The NDN team reported that the changes due to the pilot (Care Aims, mobile technology and e-scheduling) required sustained support, and a lot of confidence

building. This type of coaching and mentoring came in a number of forms, from specialist nurses, team leaders, senior nurses, and the NDN team members as they found themselves coaching new team members to maintain the new Care Aims philosophy. They couldn't have achieved or maintained the changes without them. With manager support, it led to NDNs feeling empowered and confident in their change of practice which resulted in an increased confidence in decision making.

Training in life coaching for team leaders was described as *'really really beneficial'* (Interview 201012LR CTMUHB). It helped them self-assess their strength and weaknesses as a manager and to understand their behaviour in response to managing stressful situations. They were provided with one-to-one sessions to explore how they could change certain ways in which they managed their staff.

NDN pilot staff also found that they were coaching patients to promote their independence. A training needs analysis (Document DA16) identified that staff wanted *'to develop more skills in coaching for speaking to the patients'* (Interview ABUHB 201015dp). They considered a 2-day training programme for coaching would be beneficial (Document DA14).

What didn't work?

Although this informal and distributed role seemed to work for NDN staff, we didn't find any coaching strategy with guidance for the role of the coach.

What difference does the NDN model make?

The NDN model has taken a different approach to the role of the coach in comparison with the Dutch Buurtzorg model. It seems to work for the NDN pilot sites, however, NDN pilot sites should collectively review their aims, coaching role and access to support future NDN development.

Recommendation 7: Develop an all-Wales NDN community of practice (COP) to share knowledge, learning and good practice.

'I asked them to go over to Cwm Taf and they went over and spent some time with the team.

They said 'okay, yes, happy to try it'. I think it was a lot of work in the beginning because we had to input all the caseloads onto the system, and it was about 300 patients in each team, so I guess it's that thing and confidence in the system to our [inaudible 21:35] the staff in there which allocates for you and you just do a quick check over it to make sure it's safe and correct really (Interview NN ABUHB 12.10.20sw).

Literature Review

Community of practice to support governance, team clinical and social skills development and policy.

What worked?

We learned that quite early in the development of the NDN pilots there was an agreement to sharing training across pilot sites (Document DA1) e.g. CTMUHB to share their induction programme (Document DA14) to save time. They appreciated that there were economies of scale to be considered by outsourcing across all three sites as appropriate, e.g. when purchasing training (Document DA14).

We understand that there are similarities and differences across all NDN pilot sites. However, there is a rich seam of learning about the innovations, successes and challenges of e-scheduling and its implementation, engaging with community resources, communicating and engaging with staff and stakeholders which could be shared on a regular basis.

What didn't work?

What we have seen during this evaluation is there have been occasional opportunities to share information or make collective decisions, but the opportunity has been lost for example performance data collection and agreeing outcomes.

What difference does the NDN model make?

The NDN model has provided an opportunity for reflection to consider how it wishes to share the learning going forward. A community of practice would enable it to sustain these relationships and share learning across Wales. It would be a way in which they could discuss and agree ways of working together, on areas of governance, team clinical and social skills

development and policy where appropriate (Wenger 1998).

Recommendation 8: **Embed information technology (including an e-scheduling system) and a longitudinal core dataset into Neighbourhood District Nursing service delivery across Wales.**

'...the Malinko scheduling system, that completely changed my working life, to be honest' (Interview 201012LR CTMUHB).

'once you get used to it, it's like second nature' (Interview NN CTMUHB 20.10.13dp).

'We could never even think about going back to the way things were done before. This is the new way of working now and it seems to be our norm. […] There are less duplicate visits being made. There are less abortive visits. There is less room for error with this new system and I could never imagine going back to how we were doing things before' (Interview 10.10.12 CTMUHBsw).

'I think the only thing I know we should have done better is our data collection isn't wonderful, wasn't wonderful. […]. I think it would have been better to sit down at the beginning to really look at those aims and objectives and set out better ways to collect the data and better evaluation tools. I feel like we've come to the end, and we've done a lot of really good work, but I'm not sure we've got the data or evaluations there to measure that, and I do feel like we've fallen short on that, definitely' […] 'So I think, for me, it's just getting those metrics really clear from the beginning of where our current baseline is? What are you going to do to review? And how are you going to get there?' (Interview NN PTHB 201027cw).

Literature Review

IT system developed to deliver the system that is required and not what is currently available – to include agreed core dataset (including patient outcomes), dashboard minimum standard reports comparable across Wales. Flexible shift rosters to meet patient need. Need to manage time pressures, caseload and overwork to avoid stress.

What worked?

The e-scheduling system (Malinko) purchased by two of the health boards and implemented during 2019-20 has reportedly given NDN teams an opportunity to work more safely and efficiently e.g. reducing nonclinical contact time and duplicate visits. Staff using the system describe it as a *'new way of working'* from which they would not want to return. One health board moved from a paper-based system to the Malinko system and the second health board moved from using a scheduling tool in Excel to Malinko as an interim until the Welsh Community Care Information System (WCCIS) was implemented. Implementing Malinko triggered a need to purchase ICT hardware and support for its use. Staff were happy as this gave them additional benefits such as remote access to email, UHB intranet and other app-based resources. It also required a high degree of information monitoring and management which was included in the Band 3 admin role. Plans were in place to prepare staff in advance about the implementation through early engagement, identifying IT champions and training. This resulted in staff adapting to the new change and remarking on the positive benefits of the Malinko system.

WCCIS and PAS (Patient Administrative System) are the two IT systems used by PTHB. WCCIS software helped to improve communication with other agencies such as social service, but challenges persist in accessing it when staff are working in remote areas due to poor mobile reception. PAS has a diary function which was used in Montgomery for scheduling NDN team visits; although the software doesn't offer 'real time' scheduling, it wasn't considered a challenge in the small NDN team.

What didn't work?

The evaluation was compromised by a lack of data. We were unable to assess the impact on patients and families due to a lack of comparable core datasets across the three NDN sites. More work is also needed to improve the quality of the service data captured by NDN pilots to be clear about what the data tells them.

What difference does the NDN model make?

The NDN pilot provided an opportunity to pilot the Malinko e-scheduling system and understand its effect on caseload management and staff usability. The NDN model highlights the need to develop a

longitudinal core dataset for NDN services across Wales.

Conclusion

To what extent have all the elements of the NDN Pilot proposal been delivered effectively?

Given the data that we were able to generate during the COVIE-19 pandemic it is possible to see that in the three NDN pilot sites the elements of the Neighbourhood District Nursing model have been delivered. The velocity of change, trajectory of change and micro-details are different in each site, but this is to be expected given the different contexts within which the services operate.

What difference does the NDN model make for people, staff and practitioners and the wider stakeholders?

We are unable to make strong conclusions about the differences made to the lives of people who use the service, but from the limited evidence available it is possible to see that the NDN model has the potential to make a positive difference and improve people's lives. The evidence for staff and practitioners is stronger albeit with some notable omissions in service level data, but again it is possible to see how the NDN model has made positive differences to the working lives and practices of the NDN teams, the wider stakeholders in the community and the delivery of services to people.

What lessons have we learned from Buurtzorg?

It is possible to see from the experiences of the staff that the ethos that informs the Buurtzorg model can be transplanted to a different setting, albeit with caveats. The main difference in the NDN model is the retention of the team leader role, and the distributed coaching role. The experiences of implementing the NDN model have the potential to make a useful contribution to the development of an ecological patient centred approach to giving nursing care to people in their own homes.

ANNEX A: letters of grant to ABUHB, Powys, CTMUHB

Cyfarwyddwr Cyffredinol Iechyd a Gwasanaethau Cymdeithasol/
Prif Weithredwr GIG Cymru
Grŵp **Iechyd a Gwasanaethau Cymdeithasol**

Director General Health and Social Services/
NHS Wales Chief Executive
Health and Social Services Group

Llywodraeth Cymru
Welsh Government

To Judith Paget Chief Executive
Aneurin Bevan University Health Board

Copy to Directors of Primary Care and Mental Health
Directors of W&OD
Directors of Nursing

Our Ref: AG/PL/SB

18 December 2017

Dear Judith

Wales Pilot of the Buurtzorg Approach

As part of this year's budget negotiations £2m has been set aside for each of the years 2018/19 and 2019/20 to fund a Welsh Buurtzorg pilot, including the aim of training 80 new district nurses. A short briefing on Buurtzorg and Neighbourhood District Nursing is attached.

The agreed commissioning numbers to train district nurses for 2018/19 will remain at 80 places. £1.4m of the £2m funding has been allocated to Workforce, Education and Development Service (WEDS) to all Health Boards to support the release of community nurses to undertake district nursing training to maximise the training opportunity the commissioned places afford. In addition, WEDS is also able to allocate funding to enable the release of district nurse team based Health Care Support Workers (HCSW) to undertake further training and to support district nursing administration staff to undertake training, both of which ultimately will enable them to take on roles and activities that further release district nursing time.

It has been agreed by the Cabinet Secretary that three areas of Wales should pilot the Buurtzorg approach, testing Neighbourhood District Nursing in Urban, Rural and Valley locations in the following areas:

Primary care in the Newport area has already expressed an interest in Buurtzorg and is not only an urban area but one with significant deprivation and a city regeneration programme that is developing schools and neighbourhoods. Aneurin Bevan University Health Board has a track record of integrated neighbourhood based

services.

Powys has demonstrated the benefit of the enhanced multidisciplinary primary care team through their Virtual Wards model in a rural setting. However, this model can be further enhanced with the development of well communicated anticipatory care planning.

With the focus of the Valleys Taskforce these areas of Wales have a high level of deprivation and focus of delivering integrated public services. Cwm Taf University Health Board has a proven track record of developing community based services with the hospital at home service and the implementation of Virtual Wards.

Each of these health boards (Aneurin Bevan University Health Board, Powys teaching Health Board and Cwm Taf University Health Board) have been allocated £200k for each of the financial years 2018/19 and 2019/20 to undertake pilots. A short briefing on the details of these pilots is attached. This £200k is to be ring-fenced solely for the purpose of delivering the pilot projects.

The health boards are expected to work together to limit repetition and maximise learning and to maximise the impact this funding provides. It is also expected that the health boards will incorporate within their Integrated Medium Term Plans (IMTP's) a short discussion on their planned pilot work.

I would be grateful if you could confirm you agree with this additional funding allocation for 2018/19 and 2019/20 and that following this period if successful the pilots will be mainstreamed using core funding within your IMTP and I look forward to reviewing your plans aims within your IMTPs and progress of the pilots through the Directors of Primary Care and Mental Health.

Yours sincerely

Dr Andrew Goodall

cc: Simon Dean, Deputy Chief Executive, NHS Wales
Alan Brace, Director of Finance
Frances Duffy, Director, Primary Care and Innovation Health and Social Care Group

Buurtzorg Briefing

The briefing looks at:

What the Buurtzorg model is?
How the Buurtzorg model works?
What services Buurtzorg provides?
Observations on the Buurtzorg model and its applicability to Wales.
UK perspective on the Buurtzorg model.

What the Buurtzorg model is?

The Buurtzorg model is a placed based system of district nursing care. Buurtzorg means neighbourhood. Each neighbourhood consists of a population between 5,000 and 10,000 people and each Buurtzorg team is limited to 12 staff. The focus is on continuity of care by a small team who understand and know all the community assets available and who have built up relationships and informal networks within the community and with GP's, Allied Health Professionals and the local pharmacy.

How the Buurtzorg model works?

Having started with one team in 2007 by 2016 Buurtzorg had 850 teams with over 10,000 staff mainly nurses, 45 back office staff and 18 coaches.

Each team is self determining and made up of entirely registered nurses. Each team has a diffuse leadership structure with each member of the team taking on different aspects of leadership with no overall leader within the team. The teams are able to call upon a coach if they have any issues within the team they are unable to overcome from within the team.

Nurses lead the assessment planning and coordination of care with one another and the patient and are supported by a sophisticated information technology system. This has reduced the need for paperwork supports the private insurance funding system and has had a significant impacted on back office activities helping to reduce overall back office costs by 66%. A key aim of the service is to enable patients to self manage supported by local social networks, social care and third sector providers reducing the overall length of time Buurtzorg nurses are engaged with a patient. This has been stated as cutting long term care costs by up to 40%. For the Buurtzorg model to be financially sustainable the teams need to be 60% available so they know that 60% of their time should be spent on patients. This is measured and performance managed using the information technology system

What services Buurtzorg provides?

Buurtzorg offers six key services:

- holistic assessment of the patients needs which includes medical, long-term conditions and personal/social care needs. Care plans are drafted from this assessment and used for contracting purposes with the health insurance company.

- map networks of informal care and assess ways to involve these carers in the client's treatment plan
- identify any other formal carers and help to co-ordinate care between providers
- care delivery
- support the client in his/her social environment
- promote self-care and independence.

The aim of this approach is to engage three key health priorities:

- health promotion
- management of conditions
- disease prevention.

Observations on the Buurtzorg model and its applicability to Wales

The Netherlands has the most costly health care system in the world and is based on a private insurance system with multiple providers. Buurtzorg has demonstrated significant savings based within this context. Within the contracting process with the private insurer Buurtzorg have to assess, plan and cost care and agree to accept the contract if the insurer agrees the Buurtzorg costing's and plan of care. Within Wales we have a publically funded free at the point of need population based health care system, where accountable health care organisations (health boards) provide and commission all health for their population.

The Buurtzorg model is not a model of integrated service provision. The Buurtzorg teams are stand alone. However the Buurtzorg teams with their focus on small populations delivered by small teams do excel at coordinating care across the multiple providers within the Dutch system. This is something that could be replicated in Wales and is reflected within the CNO and Nurse Director's interim guiding staffing principles for district nursing.

The Buurtzorg model is underpinned by a sophisticated information technology system. Much could be learnt from the use of this system as it has reduced the need for paper records and reduced back office overhead costs by 66%. Within Wales we are introducing the Welsh Community Care Information System (WCCIS). This is an integrated community health and social care system. Drawing from the social care elements of the WCCIS where care is means tested the planning of care will be costed to support contracting. The WCCIS may within its benefits realisation provide the benefits seen from the Buurtzorg information technology system.

The Buurtzorg model is typically Dutch with its diffuse leadership structure with no one member of the team taking a lead / accountable role. Decisions about the team are made within the team which is made up of all registered nurses. Within Netherlands there is not a specific community nursing qualification or professional registration recognition as we have in the UK with district nursing. If the team is having difficulty making a decision they can call upon a coach to help coach the team through the decision making process, but it is the team that will make the final decision. This is culturally different to the culture within the Welsh system. Teams

are typically made up of registered nurses and health care support workers lead by a district nurse team leader. The CNO and Nurse Director's interim guiding staffing principles for district nursing has drawn from the UK evidence base and reinforced the need for a district nurse team leader with the specialist practice qualification or a registered nurse with an additional leadership qualification supported by a deputy team leader with the same qualification requirements.

UK perspective on the Buurtzorg model

In early 2014 NHS London sent a delegation to visit Buurtzorg and over 2015 Buurtzorg attended a number of national seminars within the UK. This has culminated with a number of pilot sites being agreed in NHS England and NHS Scotland. NHS Northern Ireland is also considering undertaking some further work around the Buurtzorg model.

Within both Northern Ireland and Scotland, Neighbourhood District Nursing pilots are planned based on Buurtzorg principles rather than the full Buurtzorg model of care, taking into account their development of more integrated services focused around the individual.

Within England a small number of Buurtzorg pilots have commenced introducing these teams within the plurality of service provision. Evaluation of these pilots is reported as being challenging and are not yet available.

Welsh Buurtzorg Pilots - Neighbourhood District Nursing

The purpose of the pilots is to test a prototype models, for a comprehensive Neighbourhood District Nursing service. It builds on local and international evidence as informed the interim district nurse staffing principles, and supports the transformation required to reform our community nursing services.

The pilots of neighbourhood focused District Nursing team will be an integral part of the enhanced multi-disciplinary primary care team a person-centred, coordinated and prevention focused nursing service to a local community. These teams will take a public health approach, caring for a designated population, aligned within a cluster, promoting independence, safety, quality and experience with the ethos of home being the best and first place of care.

The quadruple aim quality improvement methodology will be used. There will be clear outcomes developed in partnership with patients and families based on "What matter to me", linked to a robust evaluation and learning, to answer the question, 'Can this work in Wales?'

The pilots will take into consideration the prudent healthcare approach and the policy for operating on the basis of multi - professional teams, while drawing on Buurtzorg principles and approach, will be adapted to reflect key Welsh policies.

As such the pilots will be part of cluster development and implement the recently published interim district nurse staffing guiding principles and fully comply with the Welsh Audit Office District Nursing Service in Wales – A check list for Board

Members.

Many areas are developing new models of integrated care designed around people and communities not services. The pilots will be to test this approach with district nursing teams providing a more holistic service, incorporating making every contact count and anticipatory care planning empowering district nurses to maximise community assets in the ongoing care of patients. The pilots will test the cultural changes required to move away from a task focused service and to enable district nurses to make decisions as close to the patient as possible enhancing collective clinical leadership.

The pilots will be overseen by the Directors of Primary Care and Mental Health and be fully integrated within the emerging models action plan. Utilising the current all Wales structures to manage and roll out the primary care emerging models to manage and monitor the progress of these pilots.

It is an expectation of this funding that a project management approach to the pilots will be taken, though the project approach will not be so over burdensome that it detracts from the pilots objectives. Regular project update reports are to be presented to the emerging models work stream or the national pacesetter programme and a final report of the learning from the pilots, evidence of how the funding has been spent and the economic impact of the pilots.

Through the current work to develop prudent measures of unscheduled care there is a focus on identifying patient experience, clinical outcome and value for money measures that increase understanding of ‘what good looks like’ across the unscheduled care patient pathway continuum. This will seek to capture more information on ‘care closer to home’ and out of hospital care including preventing admission and promoting early discharge from secondary care. The testing of these measures within the pilots will help the evaluation of the pilots as well as testing the measures.

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Grŵp Iechyd a Gwasanaethau Cymdeithasol

Director General Health and Social Services/ NHS Wales Chief Executive
Health and Social Services Group

Llywodraeth Cymru
Welsh Government

To Copy to

Dear Allison

Wales Pilot of the Buurtzorg Approach

Allison Williams Chief Executive Cwm Taf University Health Board

Directors of Primary Care and Mental Health Directors of W&OD
Directors of Nursing

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Our Ref: AG/PL/SB 18 December 2017

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Prif Weithredwr GIG Cymru
Grŵp **Iechyd a Gwasanaethau Cymdeithasol**

Director General Health and Social Services/
NHS Wales Chief Executive
Health and Social Services Group

Llywodraeth Cymru
Welsh Government

To Carol Shillabeer Chief Executive
Powys teaching Health Board

Copy to Directors of Primary Care and Mental Health
Directors of W&OD
Directors of Nursing

Our Ref: AG/PL/SB

18 December 2017

Dear Carol

Wales Pilot of the Buurtzorg Approach

As part of this year's budget negotiations £2m has been set aside for each of the years 2018/19 and 2019/20 to fund a Welsh Buurtzorg pilot, including the aim of training 80 new district nurses. A short briefing on Buurtzorg and Neighbourhood District Nursing is attached.

The agreed commissioning numbers to train district nurses for 2018/19 will remain at 80 places. £1.4m of the £2m funding has been allocated to Workforce, Education and Development Service (WEDS) to all Health Boards to support the release of community nurses to undertake district nursing training to maximise the training opportunity the commissioned places afford. In addition, WEDS is also able to allocate funding to enable the release of district nurse team based Health Care Support Workers (HCSW) to undertake further training and to support district nursing administration staff to undertake training, both of which ultimately will enable them to take on roles and activities that further release district nursing time.

It has been agreed by the Cabinet Secretary that three areas of Wales should pilot the Buurtzorg approach, testing Neighbourhood District Nursing in Rural, Valley and Urban locations in the following areas:

Powys has demonstrated the benefit of the enhanced multidisciplinary primary care team through their Virtual Wards model in a rural setting. However, this model can be further enhanced with the development of well communicated anticipatory care planning.

With the focus of the Valleys Taskforce these areas of Wales have a high level of deprivation and focus of delivering integrated public services. Cwm Taf University

Health Board has a proven track record of developing community based services with the hospital at home service and the implementation of Virtual Wards.

Primary care in the Newport area has already expressed an interest in Buurtzorg and is not only an urban area but one with significant deprivation and a city regeneration programme that is developing schools and neighbourhoods. Aneurin Bevan University Health Board has a track record of integrated neighbourhood based services.

Each of these health boards (Aneurin Bevan University Health Board, Powys teaching Health Board and Cwm Taf University Health Board) have been allocated £200k for each of the financial years 2018/19 and 2019/20 to undertake pilots. A short briefing on the details of these pilots is attached. This £200k is to be ring-fenced solely for the purpose of delivering the pilot projects.

The health boards are expected to work together to limit repetition and maximise learning and to maximise the impact this funding provides. It is also expected that the health boards will incorporate within their Integrated Medium Term Plans (IMTP's) a short discussion on their planned pilot work.

I would be grateful if you could confirm you agree with this additional funding allocation for 2018/19 and 2019/20 and that following this period if successful the pilots will be mainstreamed using core funding within your IMTP and I look forward to reviewing your plans aims within your IMTPs and progress of the pilots through the Directors of Primary Care and Mental Health.

Yours sincerely

Dr Andrew Goodall

cc: Simon Dean, Deputy Chief Executive, NHS Wales
Alan Brace, Director of Finance
Frances Duffy, Director, Primary Care and Innovation Health and Social Care Group

Health and Social Services Group
Y Grŵp Iechyd a Gwasanaethau Cymdeithasol

Alan Lawrie
Director of Primary, Community Care and Mental Health Cwm Taf University Health Board

Sian Millar
Divisional Director
Aneurin Bevan University Health Board

Andrew Evans
Programme Director for Primary Care Powys Teaching Health Board

Ccs:
Sue Morgan
National director and strategic programme lead for primary care

Dr Sally Lewis
National clinical lead for value based and prudent healthcare

Dear colleagues

Neighbourhood district nursing pilots/pathfinders

2 May 2018

I write following Andrew Goodall's letter of the 18 December 2017 which confirmed that your three health boards have been selected to pilot neighbourhood district nursing based on the Buurtzorg model. This is part of the Plaid Cymru financial compact with Welsh Government and is in support of Welsh Government's policy imperatives for primary and community care.

To support these pilots each of your health boards have been allocated £0.200m for the financial years 2018/19 and 2019/20. Andrew's letter also stated that health boards are expected to work together to limit repetition and maximise learning and to maximise the impact this funding provides.

In order to help facilitate this, I would like to invite you and members of your teams working on the pilots to a workshop on Wednesday 13 June 2018, from 1:30pm until

4:30pm at the Blorenge 2 Meeting room, Neville Hall Education Centre, Abergavenny, NP7 7EG.

Grŵp Iechyd a Gwasanaethau Cymdeithasol •Health and Social Services Group Parc Cathays•Cathays Park Caerdydd • Cardiff • CF10 3NQ

E-bost • Email: Jean.white@gov.wales Ffôn•Tel: 03000255517

Health a Rydym yn croesawu derbyn gohebiaeth yn Gymraeg. Byddwn yn ateb gohebiaeth a dderbynnir yn Gymraeg yn Gymraeg ac ni fydd gohebu yn Gymraeg yn arwain at oedi.

We welcome receiving correspondence in Welsh. Any correspondence received in Welsh will be answered in Welsh and corresponding in Welsh will not lead to a delay in responding.

The aim of the workshop is to provide a facilitated forum to hear and share plans for the pilots through short 5 – 10 minutes presentations, discussions on ways of working together and how to maximise learning opportunities. I would be grateful if you could confirm who will be attending from each of your health boards; my suggestion would be a maximum of 5 people per health board. I would be grateful if you could confirm names to Rachel Brown from the Primary Care Division at Rachel.brown@gov.wales as soon as possible.

To make best use of the session, please complete the attached template which aims to summarise some key information including a brief description of your pilot, including how it will address the principles of a Welsh Buurtzorg model of neighbourhood district nursing and key milestones and timescales for delivery. The completed template should aim not to exceed two sides of A4 paper, and should be submitted to Rachel Brown at the email address above no later than Wednesday 23 May. These templates will form the basis of the discussion at the workshop and also form the final approval process and the final formal allocation of the funding after the workshop on the 13 June.

I look forward to receiving your completed templates and discussing them with you on the day. In the meantime, should you have any queries, please contact Rachel on telephone number 03000253209.

Yours sincerely,

Professor Jean White CBE MStJ Chief Nursing Officer (Wales) Nurse Director NHS Wales

Jean White

ANNEX B Methodology

What we did – summary

We used a range of research methods to generate data for the evaluation. We did not compare the NDN pilots with each other because the aims and components of the models that were developed varied in each health board. We asked health board practitioners and managers involved in developing and delivering the NDN pilots and other stakeholders from the third sector, Care Aims and Malinko to meet with our researchers online using Microsoft Teams. We also consulted with academic experts in the UK about the Buurtzorg model and the changes to district nursing services. We used a realist approach to structure the questions and to analyse the literature, documents, the patient stories and the interviews. We asked the health boards for service data from each NDN pilot team to check against the Wales District Nursing Principles and to see if there were any differences in comparison with other district nursing teams.

We analysed each health board and method separately, building explanations iteratively. After we had completed all the data analysis, we triangulated the data (Wendler 2001) to answer the overarching questions:

- To what extent have all the elements of the NDN Pilot proposal been delivered effectively?
- What difference does the NDN Model make for people, staff and stakeholders?

What we did- the detail

- **A realist review of the published literature which included 37 published documents** to provide an evidence-base to compare the study findings against.

Search strategy method of analysis for Rapid Realist Review (RRR)

The RRR followed good practice guidelines for conducting realist reviews (Moher et al 2009, Williams et al 2017, Nurjono et al 2018) and set out to provide information to answer the

following realist questions:

1) **What extent?**: To what extent has the NN model had an impact on the delivery of care for service users and carers, district nursing teams, and wider multi-disciplinary teams in the community?

2) **How?**: How does the NN model affect the delivery of care for service users and carers, district nursing teams, and wider multi-disciplinary teams in the community?

3) **In what context?**: In what context do the mechanisms trigger the causative factors and outcomes of the NN model?

4) **For whom?**: For whom does the NN model work - service users and carers, district nursing teams, and wider multi-disciplinary teams in the community?

The PICO model was used to set parameters (Richardson et al 1995; Counsell 1997; Schardt et al 2007):

Population - service users and carers, district nursing teams, and wider multi-disciplinary teams in the community

Intervention - NN model

Comparison - Preceding District Nursing Service model.

Outcome - the impact of NN on service users and carers, district nursing teams, and wider multi-disciplinary teams in the community, the voluntary sector, housing and additional services that NN might refer to, and partners of ABUHB, CTMUHB and PTHB.

<u>Search terms and alternates used were:</u>

Search Term	*Alternate*
Neighbourhood Nurs*	*Neighbourhood Nurs* team**
	Neighbourhood Nurs service**
	*Neighbourhood District Nurs**
Buurtzorg	*Buurtzorg Nederland*
	*Dutch Neighbourhood Nurs**
	*Dutch Homecar**
	*Buurtzorg Coach**
	*Buurtzorg model of car**

Neighbourhood Car*	*Neighbourhood Car* Team**
	*Neighbourhoods of Car**
	Car in the Neighbourhood**
Living Well team*	*Living Well Communit**
Self-Manag*	*Self-Manag* Nurs* Team**
	Non-hierarchical Self-manag Team**
	Non-Hierarch Nurs* Team**
Home Care Nurs*	*Domiciliary Nurs**
	Home Health
	Home Care Provider Model
	*Community health nurs**
Bureaucratic delivery of car*	
Nurse-led model of community car*	
Patient centred community nurs*	*Person centred model of car**
	*People centred model of car**
	*People power**
Joined up community car*	
Technical nursing intervention*	
Community matron*	

Table B1: Literature sources

Policy documents: Healthier Wales; Safer Staffing; NMC related documents; Well-being of Future Generations (Wales) Act 2015; Social Services and Well-being (Wales) 2014; NHS Planning Framework 2020-23	
Databases: 1] Cinahl, 2] Medline, 3] Science Direct, 4] Scopus, 5] Web of Science, 6] TRIP, 7] PsychInfo, 8] ASSIA, 9] ProQuest Psychology, 10] PubMed, 11] Cochrane, 12] Emerald, 13] Social Care on-line, 14] Index of Theses, 15] British	

Education Index, 16] OpenGrey	
Grey Literature: 1] UHB websites, 2] RCN, 3] Google, 4] Bing, 5] Yahoo, 6] Buurtzorg UK & Ireland Buurtzorg.org.uk, 7] Research Gate, 8] Sigma Theta Tau, 9] Facebook, 10] QNI website, 11] Foundation for Nursing Studies website, 12] ICN website	
Inclusion/Exclusion criteria: **Include:** written in English; published since 2000; any type of literature or document; any country where Buurtzorg has been introduced; nursing in the home	**Exclude:** written in any other language than English; published before 2000; nursing in hospital; non-nursing care delivered in the home

The PRISMA process was followed to capture relevant papers (Moher et al 2009) using a structured extraction document devised for the project:

Table B2: PRISMA process

Identification	Records identified through database searching (n = 114)	Additional records identified through other sources (n = 38)
Screening	Records screened (n = 152)	Records excluded (n = 49)
	Duplicates Removed (n = 0)	
Eligibility	Full-text articles assessed for eligibility (n = 103)	Full-text articles excluded: (n=28 not relevant to home care, n=32 insufficient detail on Buurtzorg implementation, n=6 relevant but written in Dutch)
	Studies included in review (n = 37)	
Included	Studies included in narrative synthesis (n = 37)	

From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097 www.prisma-statement.org

A thematic process was used to extract data (Silverman 2013) using realist concepts of Context, Mechanism and Outcome (Williams et al 2017, Nurjono et al 2018). A 10% sample was checked by a team member for consistency and a narrative built from the data extracted.

– **A range of qualitative methods used throughout the three pilot sites, including a range of documents (N=85) patient stories (N=4) and interviews (N=29)**. Table B3 presents the number and type of documents analysed, and table B4 presents the number and distribution of interviews.

Documentary analysis

Table B3a: The total number of documents Powys THB N=34

Document number	Document Type
DP1	Delivery agreement (n=1)
DP2	Delivery plan (n=1) (2019-20 – updated)
DP3-4	Milestone plan/report (n=2) – 2018, 2019
DP5-7	Delivery reports (n=3): • 6-month delivery report 2018 • end of year 1 delivery report 18/19 • 6-month delivery report 2019
DP8-22	Workshop minutes (n=15)
DP23-27	Steering group notes (n=5)
DP28-32	Meeting action notes (n=5)
DP33	NN 'additional information WG'
DP34	Evaluation: Document schedule (N=1)

Table B3b: The total number of documents Aneurin Bevan UHB N=29

Document number	Document Type
DA1	Assessment of the final reports on Neighbourhood District Nursing (3 pilot sites) (n=1)
DA2	Project overview- Project management document (n=1)
DA3	Malinko's Proposal in Newport South Community Neighbourhood Project (n=1)
DA4	Patient Story (n=1)
DA5	Updated delivery plan for 2019/20 (n=1)
DA6	ABUHB All Wales District Nursing Quality Audit (AWDNQA) (n=1)

DA7	Aneurin Bevan Community Health Council: Patient experience questionnaire (n=1)
DA8	ABUHB Neighbourhood Nursing Conceptual Model 2018 (n=1)
DA9	NDN pilot report (n=1)
DA10-19	Nursing (Buurtzorg) Project Board Minutes (n=10)
DA20	Patient Story (n=1)
DA21	Protocol for Trial Without Catheter (TWOC) 2019 (n=1)
DA22	Patient Story (n=1)
DA23	TWOC Central East Report (n=1)
DA24-26	Care Aims evaluation (n=3)
DA27	Newsletter (n=1)
DA28	Poster 'Enhancing End of Life Care for Individuals Living with Dementia through the application and completion of Advanced Care Decisions'(n=1)
DA29	Evaluation: Document schedule (N=1)

Table B3c: The total number of documents Cwm Taf Morgannwg UHB N=22

Document number	Document Type
DC1	Draft Implementation Plan (n=1)
DC2-4	Delivery reports and Action Plan (n=3)
DC5	Introductory to Respiratory- training agenda day 1-3, May 2018 (n=1)
DC6	Malinko support attendance report 03-04-2019 to 13-03-2020 (n=1)
DC7	District Nursing Teams (n=1)
DC8	The Care Aims Intended Outcomes Framework: Module 1, 19-20 March 2019 (n=1)
DC9	Community Connector Bulletin July 2020 (VAMT & InterlinkRCT) (n=1)
DC10	Malinko e-mail – days of support for implementation of Malinko (n=1)

DC11	Guideline competency for the management of patients with chronic obstructive pulmonary disease within primary care: A competency-based workbook (n=1)
DC12	District Nursing Staffing Principles report (n=1)
DC20	Primary and Community Committee Report: Proposal to Pilot NDN teams. (n=1)
DC21	Neighbourhood district nursing pilots/pathfinders' workshop 13.06.2018 (n=1)
DC22	Evaluation: Document schedule (N=1)

Table B4: Number of Qualitative interviews

Health Board	**Senior Manager**	**Team Leader**	**District Nurse**	**Practice Manager**	**Third Sector**	**Other**	**Total**
Aneurin Bevan	1	3	3	1	1		**9**
Cwm Taf Morgannwg	2	3	3	0	1		**9**
Powys Teaching	2	3	2	0	2		**9**
Care Aims/ Malinko						2	**1**
Total	**5**	**9**	**8**	**1**	**4**	**2**	**29**

A realist approach asks, ‘What works for whom, why and in what context?’, whilst making sure that the evaluation also addressed the overarching evaluation questions:

- **To what extent have all the elements of the NDN Pilot proposal been delivered effectively?**
- **What difference does the NDN Model make for people, staff and stakeholders?**

NDN pilots are complex interventions and provide a direction of change for future district

nursing services. They rely on local population needs analysis data to enable them to tailor and develop district nursing services to meet the needs of a specific geographical location. Consequently, the specialist skill set in one geographical area may not meet the population needs of another.

The study design was guided by Pawson & Tilley's (1997) work based on critical realism where underlying causal mechanisms are present that explain how things work in a multidimensional open system such as healthcare (McEvoy & Richards 2003). These causal mechanisms connect time and space and operate at different levels of reality; for example, biological reality (e.g. diabetes), structural constraints (e.g. scheduling insulin injections, skill mix, referral processes) and cultural attitude (e.g. working together, Care Aims and 'what matters' conversations). Sometimes they are only visible through their effect so, patient, staff or organisational outcomes of NDN pilot services can be seen as an 'unfolding' process between the physical and the social context. Pawson & Tilley (1997) describe it as Context + Mechanism = Outcome where there is an interrelationship between the context (a resource) and the known mechanism (behaviour) that results in an outcome (C+M=O). The outcome is the intended or unintended consequences of the mechanism. This is called a CMO configuration. Summaries of the CMO configurations are then provided to translate into practice.

This approach aims to develop explanations in response to understanding causation (theory and evidence) for how functions work, and in which environment or situation (Pawson & Tilley 2007, Rycroft-Malone 2016). It assumes that a NDN pilot service will work in particular circumstances, and so there is a need to find the evidence for those key conditions in order to replicate it elsewhere. Data is collected and analysed in cycles (e.g. documents, staff then stakeholder interviews) and this gives the team opportunity to identify each service process and understand how it works. This method also provided an opportunity to test developing explanations for the staff and wider stakeholder experiences.

To support this approach, realist sampling was used. This is a form of purposive sampling which looks for examples of the 'mechanisms- in- action' for example the mechanisms which

for the theory around the 'Changed Conversation' (Care Aims and 'What Matters'). Having identified these within the document analysis (cycle 1), interviews were sought with practitioners and managers (cycle 2) and wider stakeholders (cycle 3) to test and refine the theory.

- **A range of service data collected by the NDN Teams during the pilot phase**

There were three sets of service data provided, one for each of the health boards. All data covered a number of areas (GP clusters/sites etc.) with some in the neighbourhood nursing pilot sites and other data from non-pilot sites. The main aim of all the analyses was to distinguish between the two groups – pilot sites and non-pilot sites – based on several data variables.

The datasets consisted of two types of data:

- Time series – with the same information collected (variable of interest observed) over multiple time periods, some over years and some over months and years; and
- Variables of interest observed, and information collected at a specific instant.

The time series data were analysed by means of simple scatter plots/line graphs with response of interest on the y-axis and time (years or months and years) on the x-axis. When comparing pilot against non-pilot sites, the lines associated with the pilot sites were compared with the non-pilot sites. Since there were only three areas in the pilot group, it was decided to examine whether, on average, the pilot sites behaved similarly to the non-pilot sites, by means of constructing a 95% confidence interval (CI) for the non-pilot group. In most cases, the usual assumptions for CI computation were at least approximately satisfactory. When the assumptions were not satisfactory, Wilcox CI a non-parametric CI was used. The notion here was that if a pilot site fell within the 95% CI, we could conclude that this particular site behaved similarly, on average to those non-pilot sites, and vice versa.

ANNEX C: The Realist Review

Rapid Realist Review of the Buurtzorg/Neighbourhood Nursing literature

Introduction

There has been a great deal of interest in the Buurtzorg system of delivering home care to people with long term conditions (cited as Bg from now on) but there is a limited amount of rigorous robust evaluative evidence that is available in the English language public domain or grey literature. There are a number of key evaluation documents that are only available in Dutch (Kaloudis 2016) – the KMPG report (2015), the Ernst & Young Report (2009), and Van Dalen (2010, 2012), De Blok & Pool (2010) and Pool & Mast (2011), although a number of Dutch authors refer to them and provide their interpretation.

This review has only accessed the English language literature as part of the Cwm Taf Morgannwg UHB commissioned review of Neighbourhood Nursing in Wales on behalf of Powys THB and Aneurin Bevan UHB. The Rapid Realist Review (RRR) followed a standard form (Moher et al 2009, Williams et al 2017, Nurjano et al 2018) see Annex B for details of the search strategy and methods of analysis. This includes the PICO rubric used (Richardson et al 1995, Counsell 1997, Schardt et al 2007), and search terms and alternates used with the itemised literature sources. We then move on to detailing the PRISMA process that was followed to identify the key papers for data extraction and analysis. We include a table detailing the Bg principles and characteristics gleaned from the literature.

The findings are presented from the Dutch facing literature first, followed by literature on Bg projects in other countries. In the findings the Context: Mechanism: Outcome rubric has been used to identify salient points and these are presented first within each section, this is followed by a narrative account and each section finishes with recommendations drawn from the review using the If/Then format. These findings will then be used to help develop a programme theory and inform the other components of the evaluation.

NB: the acronym 'NL' has been used for Netherlands throughout this review.

Buurtzorg Principles:

1. Patient centred
2. Patient empowerment/self-management
3. Draw on community resources
4. Self-managing team
5. People before bureaucracy
6. Continuity of care & carer/Care planner as care giver
7. Trust

Table C1 - Buurtzorg characteristics from the literature on NL Bg

Team: Community Nurse [RN with bachelor's degree]; RN [with associate degree]; Certified Nurse Assistant
Team: flat hierarchy, self-manage, responsible for rostering, budgets, CPD and recruitment; weekly review of patients, team working and work organisation
Team: N=12; neighbourhood = 15k people; caseload = 40-60 at any one time; patient has personal guide [no other info on this maybe primary nurse type relationship]
Teams: source office accommodation; recruit team; build networks; actively seek business from insurance organisations/regional health organisations
Teams: Community Nurses assess, co-design care plan, negotiate interventions, co-ordinate family/friends/3rd sector/hospital care.
Teams: paid €56 per hour per patient; 58% productivity; 8% overheads; 3% absence rate; office housing costs no more the 1% of turnover; not-for-profit turnover 2011 = €130m; 2015 costs 35% lower than Dutch sector average €8.4k i.e. Buurtzorg costs €5.46k per patient p.a.
Buurtzorg funding: split between compulsory individual social insurance; means tested patient contribution. If care volume exceeds insurer payment contract, then continue to deliver care and make a loss; aim for profits to cover losses.
Back Office: 45 staff supporting 950 teams/10k staff [ratio: 2 Community Nurses; 3 RNs; 3 HCAs]. Buurtzorg has 41% of the total available Dutch Community Nurses.
Teams: Buurtzorg quality system is dynamic and based on - patient experience; effectiveness of professional interventions [Omaha system]; Quality Indicators based on national standard; team

roles description; team organisation.
Coach: supports 30-35 teams (360-420 staff) to help them find their own solutions to local problems. New team – coach supports recruitment; training on Buurtzorgweb; role division/allocation; network building with other caregivers [formal/informal].
IT: Omaha for nursing activity; bespoke billing via software as a service; Buurtzorgweb for community of practice support. Buurtzorg has got Dutch Ministry of Health to use Omaha on its national system and Dutch Universities now use it on their nursing degree programmes.
National office: 3 directors dealing with operations management, innovation, quality and strategy; liaise with national organisations and Dutch government.

Realist Review Theories

NL Data

Context: Limited NL Bg data available in the public domain.

Mechanism: Reports from KPMG (2015) and E&Y (2009) in Dutch. English language versions not available - data selection, inclusion and analysis are unknown. Unable to comment on methodologies/research practices in these reports. Information on staff qualifications low on detail, only available via speeches/presentations.

Outcome: Not able to verify Bg data.

It is difficult to verify the data on NL Bg success as it's either not in public domain, in Dutch with no English translation, or extracted from speeches/presentation material which are not precise (Kaloudis 2016). This makes it difficult to comment on the methodologies and research practices that have been used to produce the results which are then put out into the public domain. It is not possible to evaluate the various reports from KPMG (2015) and E&Y (2009) because data selection, inclusion and analysis are unknown. We don't have details in English of how costs were calculated, therefore it is impossible to offer an evidence-based opinion on comparability. With regard to staff qualifications there is variation in the data sources; most of it comes from speeches/notes/material intended to make a broad point, therefore the level of detail is low (Kaloudis 2016).

Recommendation: IF data not publicly available on Bg implementation in other countries; THEN consider existing framework of structure, culture and practices to identify a patient centred ecological mode framework.

NL Bg Beginnings: from niche to dominant model

Context: NL Bg started as a new venture outside of existing structures. No information in the public domain of whether this has been successfully replicated in other countries e.g. China, Japan, Sweden.

Mechanism: Uses a patient centred ecological mode framework and network science. Built a new framework of structure, culture and practices. Used a system of 'learning by doing' and 'trial and error' in applying principles and values.

Outcome: Lessons learnt captured, codified and consolidated into the Bg system. Successful scaled up transition experiment. Successfully competed with and usurped pre-existing dominant model of NL healthcare. Bg now dominant model for organising and delivering long term care in NL.

Bg has developed from its start as a small niche way of delivering care to being a dominant model in the organisation and delivery of long-term care in the Netherlands (NL) (Dean 2015; Gray et al 2015; Johansen et al 2017). It is a very good example of a paradigm shift and a successful scaled up transition experiment. From its impact on NL society, Bg has the potential to make a substantial contribution to delivering sustainable healthcare at all levels (van den Bosch et al 2015; Cramm & Nieboer 2017; Ganann et al 2019). NL Bg defines contemporary health care as a wicked problem, and it uses a patient centred ecological framework with network science as an organising principle (Kreitzer et al 2015).

NL Bg expansion can be understood as part of a multi-level societal process of deepening, broadening and scaling-up (van den Bosch 2015; Johansen et al 2017). Deepening refers to learning activities where actors learn as much as possible in a specific local context. Broadening refers to repeating and connecting new approaches within/outside the initial application domain. This is a process of adaptation and building networks with increasing influence and stability. Scaling-up refers to embedding the new approach in dominant practices, structure and culture of the societal system. NL Bg started out as a niche activity outside the regime of large healthcare providers. This allowed it to create space to build a new healthcare organisation and develop the self-managed team approach in different

niches. It has built a new constellation of structure, culture and practices (a niche-regime) that has successfully competed with and usurped the dominant constellation of NL healthcare (regime). Bg was able to do this by a system of 'learning by doing' and 'trial and error' in applying the principles and values of its founders. These lessons that have been learnt have gone on to be captured, codified and consolidated into the Bg system (van den Bosch et al 2015).

NL Bg has influenced 2 other NL providers (Zorgaccent and Amsterling), 2 in Belgium (Wit-Gele Kruis Oost-Vlaanderen and Wit-Gele Kruis Vlaams-Brabant), 1 in Sweden, 500 teams in Japan (van den Bosch et al 2015), and an unspecified presence in Switzerland (Kreitzer et al 2015) and China (Fritjers 2017) but there is no information in the public domain (Kaloudis 2016).

***Recommendations*: IF data not publicly available on Bg implementation in other countries; THEN consider existing framework of structure, culture and practices to identify a patient centred ecological mode framework and network science. Look for a system of 'learning by doing' and 'trial and error' in applying principles and values.**

Changes to NL Home Care

Context: Formation of large bureaucratic NL organisations responsible for delivering home care in 1990s. Managers determined nursing work, and allocated tasks, responsibilities and work areas. Unpopular with service users and nurses. Bg's success allowed it to influence key powerful decision makers in the NL government.

Mechanism: RNs with a degree have legal authority for formal needs assessment, determine what nursing care and personal care services clients need, responsible for organising and co-ordinating home care. Mandated to link with healthcare, social care and housing agencies.

Outcome: 2015 - radical reforms for long term care. RNs with a degree include patient care needs, opportunity for self-reliance, home environment and social network in assessment. Promote patient self-management, co-operate with informal carers, and deliver healthcare related prevention activity.

Up to 1990s NL home care nurses usually worked in small scale, local organisations. They

carried out a wide range of nursing care activities, had an independent role, and were responsible for meeting their patients' needs (Nandram & Koster 2014). During the 1990s, the NL health care system underwent dramatic change with the formation of large bureaucratic organisations responsible for delivering home care. In the new configuration, managers determined the content of nursing work, and allocated tasks, responsibilities and work areas. Nurses became accountable to managers for what they did (van den Bosch 2015; Fritjers 2017; Gray et al 2015; Johansen et al 2017; Marits et al 2017).

This standardisation and categorisation of tasks meant that care needs assessment was transferred away from the local setting to regional assessment organisations. This was the impetus for Bg's foundation, and it mirrored the dissatisfaction experienced by NL community nurses and service users (Bosman et al 2008; Kreitzer et al 2015; Marits et al 2017). Bg's success meant that it was able to influence key powerful decision makers in the NL government, and in 2015 there were radical reforms for long term care. The NL government made RNs with a degree responsible for organising and co-ordinating home care. In doing so, they are mandated to link with healthcare, social care and housing agencies. RNs with a degree have the legal authority to perform formal needs assessment and to determine what nursing care and personal care services are needed by clients (Marits et al 2018). When they make their assessment, they are required to take into account patient care needs, the opportunity for self-reliance, the home environment and the person's social network. RNs with a degree are required to promote self-management by patients and co-operate with informal carers. They are also responsible for healthcare related prevention activity. Because of these changes, NL home care nurses meet the WHO guidance (WHO 2015) for delivering people centred, integrated home care (van den Bosch 2015; Johansen et al 2017; Marits et al 2018).
<u>Recommendation</u>: IF patient care needs are central and there is a focus on self-reliance, home environment and social network; THEN review community nursing assessments to identify whether community nurses promote patient self-management, co-operate with informal carers, and deliver healthcare related prevention activity.

NL Bg Operations

<u>Context</u>: NL Bg back office staff includes coaches and admin staff to support RN activity.

Mechanism: NL Bg has a skill mix of 2 RNs (degree), 3 RNs (assoc degree), 3 Certified Nursing Assistants. Real time financial reports allow teams to self-monitor productivity and self-manage budgets. Coaches help with recruitment and facilitate Bg team dynamics, so they develop their own solutions to issues and take proactive steps. Each coach supports 30-50 teams on a regional basis
Outcome: Bg uses only 40% of the allocated care hours per patient. Absence rates 3% (half the sector average). Costs reported as 35% lower than NL average.

Bg portrays itself as a new radical kind of organisation that puts humanity before bureaucracy and bases its operation on trust (Nandram & Koster 2014; van den Bosch et al 2015; Johansen et al 2017). There are three directors – the founder (a nurse with formal healthcare management training and experience, an IT expert, and an experienced healthcare administrator. The board of directors are accountable to a supervisory board under NL law (Fritjers 2017). There is a back office that supports the self-managed Bg teams. In 2013, the back-office staff comprised 49 admin staff helping with billing and legal compliance, and 14 coaches who support 6.5k frontline staff in 630 teams serving 60k clients. By 2015 there were 800 teams, 8k frontline staff of which 2k RN with degree (42% of all NL community nurses], 3k RNs with associate degree, and 3k CNAs (Dougall et al 2018). NL Bg gets€57/hr from NL home care funding organisations but their costs are €53/hr and productivity needs to be 58% for the organisation make profits. NL Bg uses only 40% of the allocated care hours per patient (Kreitzer et al 2015), profits in 2010 were 8% of turnover and 2011 income was reported at €130m (De Blok 2011; Nandram & Koster 2014). Costs for 2015 were reported as 35% lower than NL average of 8.4k€ i.e. 5.46k€ per patient per year (De Blok 2015) and NL Bg absence rates were 3% compared with the NL home care sector average 7% (Dougall et al 2018). Real time financial reports allow NL Bg teams to self-monitor productivity and self-manage budgets (Nandram & Koster 2014). Bgweb saves 20% of usual home care sector administration costs (De Blok 2015; Kreitzer et al 2015).
Bg system processes have changed over time in response to its context i.e. the changing picture of NL healthcare organisation and payment (Johansen et al 2017). NL has a mandatory social insurance scheme that covers home and residential care plus social care and is not related to age or health status (Fritjers 2017). There is a ~€300 ceiling before the insurance picks up the costs. NL has near double the availability of residential services

compared to the UK. This will affect any comparative health economic analysis of NL v UK costs because UK analyses typically include higher-cost acute-care beds as a comparator for home care delivery service outcomes, and the NL has a lower cost-high availability residential care bed system i.e. we are not comparing like with like. There is limited data on Bg teams use of in-patient acute hospital services in the public domain (Duncan 2019).

The skill mix seems to have changed over time but there is no rationale in the literature for this (Kaloudis 2016). RNs are more expensive to employ but Bg care proves to be less expensive as it draws on neighbourhood resources and number of hours of care delivered is less that other home care organisations (De Blok 2011; De Blok 2015; Gray et al 2015). This is probably due to the reliance on family/friends to be involved in direct care giving. Coaches help with recruitment and facilitate the Bg team dynamics so that teams may come up with their own solutions to issues and take proactive steps. Each coach supports between 30-50 teams on a regional basis (Buljac-Samardzic & van Woerkom 2015; Fritjers 2017).
Recommendations: ***IF there is an emphasis on humanity before bureaucracy; THEN identify admin back up to support frontline activity; identify the role of coach; look at skill mix to support care delivery; identify self-management of resources (human, equipment, finances); capture absence rates, care delivery costs, and hours of care delivered by community nurses vs informal carers.***

Information Systems
Context: core Bg values - avoid bureaucracy that threatens individual freedom; eliminate unnecessary tasks that interfere with meeting patients' needs; ensure maximum transparency within the system.
Mechanism: BgWeb developed to ensure transparency and trust by simplifying tasks, reducing bureaucracy, communicating quickly and effectively within wider Bg organisation, and supporting nurses to do their daily work
Outcome: Each Bg team member sees her own workload and workload of others, along with patient satisfaction data and team performance data. BgWeb collates nursing documented activity as time spent per visit not number or timings of interventions. Omaha System built into capture nursing assessment and interventions, and support billing. Also supports a community of practice. BgWeb used to share work experiences, and proactively seek

information from colleagues and coaches on care issues or problems.

A central part Bg is the bespoke IT system (Buurtzorgweb or BgWeb) (Nandram & Koster 2014; Kurki & Wilenius 2016). In developing BgWeb, Bg frontline staff were asked, 'What information do you need for you to carry out your daily work?' NOT what information does the organisation need for control. BgWeb is used to simplify tasks, reduce bureaucracy, communicate quickly and effectively within the wider Bg organisation, and support nurses to do their daily work. It collates nursing documented activity in terms of time spent per visit but not timings of interventions. The Omaha System is built into BgWeb to capture nursing assessment and interventions and is used to support billing (Gray et al 2015). BgWeb also supports a community of practice. Bg staff use BgWeb to share their work experiences, and proactively seek information from colleagues and coaches on care issues or problems. As a system, BgWeb needed to be accessible, easy to administer, usable in diverse locations, and quick to set up for new teams (Kurki & Wilenius 2016).

BgWeb was developed using Bg core values of avoiding bureaucracy that threatens individual freedom, and to eliminate unnecessary tasks that interfered with meeting patients' needs (Nandram & Koster 2014). The system must facilitate professional attuning to patient needs. It must offer solutions but uphold the freedom of Bg nurses to choose interventions based on their professional judgement of patient need. The user interfaces were developed and tested with end users. There are limited control mechanisms at team level of BgWeb, and company wide data is captured for monitoring and benchmarking, not control. There is maximum transparency within the system so that each Bg team member sees her own workload as well as the workload of others, along with patient satisfaction data and team performance data (Kurki & Wilenius 2016).
***<u>Recommendations</u>*: IF the IT focus is staff centred as opposed to service centred; THEN review community nurse access to information – nursing activity; workloads; budget/costs; support/coaching; patient feedback. Identify whether teams have streamlined bureaucratic work demands.**

NL Bg Ethos and Practice

<u>Context</u>: Reliance on informal carers (mantzelorgers) – team train them to safely carry out

technical care and monitor their performance. Bg team = 10-12 staff (2:3:3), 30-60 patients from population of 15k. Flat hierarchy – no leader. Teams allocate 3-4 staff per patient to maintain continuity of care/r. No minimum/maximum visit time. Staff respond to patient need and gauge visit length accordingly. Activities include - medication, wound dressing, helping patients get up and dress, and help with eating. Typical evening shift - help patients close their day, warm up meals, give medication, close curtains, remind about washing up, open up the bed, put out patients' nightwear to remind them.

Mechanism: Bg model built on principles of partnership and trust.

Outcome: Typical visit = 25 minutes (sector average). High patient satisfaction. High staff satisfaction.

The Bg model is built around partnership with patients, their families and friends and community resources. This means that there is big reliance on mantzelorg/ers – informal family care/rs – some of whom administer medications and provide wound care. Part of the NL Bg team role is to train mantzelorgers to safely carry out various technical care activities and monitor quality of their care. Rural patients more likely to receive care and input from NL Bg staff and mantzelorg than urban patients (Fritjers 2017).

A NL Bg team typically has 10-12 staff (a mix of RNs with a degree [4yrs training], RNs with an associate degree [3yrs training], and Certified Assistant Nurses [3yrs vocational training] Marits et al 2015) with 30-60 patients for a population of around 15k people (Nandram & Koster 2014). If patient numbers increase, then teams split the caseload and 'bud' off a new team. There is a flat hierarchy in a NL Bg team and as there is no leader everyone is involved in decision making and problem solving. Teams allocate patients and roles to individual Bg staff. To make sure that NL Bg staff can build relationships with their patients there must be continuity of care and carer (Dougall et al 2018). Typically, NL Bg teams schedule 3-4 Bg staff per patient to maximise continuity. ANL Bg staff visit to a patient is typically 25 mins, which is the sector average, but there is no minimum or maximum time expected. Staff respond to patient need and gauge visit length accordingly (Gray et al 2015). A typical morning for Bg staff is 8-13.00 delivering care to 6-10 pts. They will be involved with medication, wound dressing, helping patients get up and dress, and help with eating. They do not clean the patient's dwelling. In a typical evening shift Bg staff help patients to close their day by

warming up meals, giving medication, closing curtains, reminding about washing up, opening the bed, putting out patients' nightwear to remind them (Dean 2015).

***Recommendations*: IF partnership and trust working practices are key principles: THEN determine governance processes and input of informal carers. Identify training of informal carers. Identify team composition and hierarchy. Capture allocation of nurses to patients. Determine continuity of care and carer. Capture visit duration and frequency. Identify team activities with patients. Determine patient and staff satisfaction.**

Self-Managing Teams

Context: Flat hierarchy but pay differential based on qualification. Bg RNs operate below and above their initial professional education. Humanity placed before bureaucracy.

Mechanism: Different set of social skills and different/broader set of clinical skills needed for self-managing teams. Bg RNs operate below initial education when doing social care e.g. light meal preparation, and above initial education when dealing with complex end of life care and co-ordinating input from multiple agencies/mantzelorgers. Working schedules may not be family friendly in order to meet patient need. Bg employ experienced skilled nurses who can keep people at home for longer but who recognise when patients need medical attention from hospital services. NL Bg client group may be frailer due to high prevalence of physician referral.

Outcome: Reasons for leaving Bg team - social skills, continuity demands, non-family friendly working schedules. Bg teams have low nursing home referral rate but high hospital referral rates compared with NL home care sector.

Although NL Bg nurses work in a flat hierarchy and there are no leaders, they are paid relative to their educational status which has been agreed with the relevant NL nurses' union (Gray et al 2015). Bg nurses are recruited for their technical skills and experience in nursing but there is a set of social skills which is important for them to have in order to work well in self organising teams. It takes about 1yr for a nurse to learn the particular social skills that are needed for Bg. The issue of social skills needed for self-organising teams is a common reason for nurses to leave Bg teams (Kurki & Wilenius 2016). This may also be an issue when evaluating Neighbourhood Nursing in the UK. The nature of NL Bg work stretches nurses' competency, and they find themselves operating below and above their

initial professional education. Below their initial education in that they may carry out social care e.g. light meal preparation and above their initial education when they are dealing with complex end of life care situations and co-ordinating the input of a number of agencies/mantzelorger.

Bg work must be delivered when it is required, and this may be within or outside the usual working day hours if it is unplanned or night work (Huijbers 2011). This is not likely to be family friendly and may be the cause for Bg staff to leave a team (Kurki & Wilenius 2016). However, self-directed team working is one of the key attractors for home care nurses and is likely to help retain home care staff. There appears to be no difference between RNs with an assoc degree or a degree when it comes to the attractiveness of the home care nurse role i.e. like linking and co-ordination (Marits et al 2015). Only 30% of hospital nurses are attracted to home care nursing and this may be a future problem for recruiting future generations of home nurses working in Bg teams.

One of the chronic problems for NL Bg teams is work/life balance due to their commitment to the continuity of care/r principle. There are suggestions that many Bg staff find it hard to take time away from work because of their patients' needs for home care. This understandably causes stress and fatigue (Huijbers 2011; Kurki & Wilenius 2016). However, it is under-reported in the literature and there is no hard evidence to support this although it is a feature of some of the UK pilots (Maybin et al 2019). Bg teams are reported as having a low nursing home referral rate for patients but a high hospital referral rates compared with NL home care sector. This may be due to Bg employing experienced skilled nurses who are able to keep people at home for longer but who are able to recognise when patients need medical attention from hospital services. It may be that the NL Bg client group may be further along the downward slope than other clients of other providers due to the high prevalence of physician referral to Bg services (Gray et al 2015). This could be compounded by lack of clinical support from specialist medical input on frailty and/or community healthcare for older people and may indicate a need for nurses to be upskilled in advanced clinical practice.

When NL Bg teams are recruiting new team members, applicants are interviewed by the

people with whom they will work. This is so that both parties can do a compatibility check with each other (Kurki & Wilenius 2016). The issue of hidden discrimination being present in this way of working is not addressed in the Bg literature.

Recommendations: IF there is an expectation of a change in patient referral pattern; THEN capture extent of out of hours working to meet client need. Determine in-patient referral pattern – LoS, frequency of admission, discharge location; residential/nursing home referral pattern. Identify caseload characteristics re:frailty and mortality rates.

Literature on other countries implementing Bg principles

China:

Context: No dominant culture of professional home care nursing. Social care prevalent e.g. cleaning, cooking, shopping. Weak primary care system. Chinese nurses only trained in hospital care.

Mechanism: Focus on medical task activity. Transactional relationship with family members.

Outcome: No training of mantzelorgers. Not following patient centred ecological model. Train Chinese nurses in home care nursing.

(Fritjers 2017) Bg China don't have a medical license from the Chinese authorities so have to work with other Chinese healthcare companies which limits their activity. This means that Bg China nurses must focus on the task for which they have been hired. Subsequently they are not operating in a holistic way; rather they focus on attending to medical-based problems. This seems to undermine the core principles of NL Bg. In China, there is a lot of provision for home support and activities of daily living e.g. cooking and shopping but no dominant culture of professional nursing home care. There is a weak GP/primary care system particularly in rural areas, so Bg China nurses have the potential to plug a healthcare provision gap. Bg China nurses don't train mantzelorgers and the relationship with families tends to be transactional. Bg China has to re-train the nurses it employs to do home care as they are only trained in hospital settings and have no prior experience of home care nursing.

***Recommendations*: IF there is an emphasis on using highly trained nurses and mantzorgers; THEN identify proportion of staff trained for community nursing. Identify extent of social care availability. Identify extent of only addressing medical tasks. Identify**

relationship with family members. Identify extent of training for informal carers.

France:

Context: Long history of home care nursing but proscribed by French law and lone worker piece rate model. Dominant culture of autonomous working.

Mechanism: Re-label activity to comply with French law and payment systems.

Outcome: IT system not fit for purpose of payment per visit. Nurses had to learn the social skills necessary for team working. High turnover of staff.

(Cristofalo et al 2019) French implementation of Bg principles is partial due to the funding mechanisms and law around home care nurses in France. The dominant IT system with which they must engage is not fit for the purpose of payment per visit. French Bg nurses were able to act autonomously in their everyday working which was supported by their salaried status rather than paid for piecework, but they struggled with team working which proved to be a major obstacle to their successful embededment.

Recommendations**: IF the intervention sets out to empower staff to put humanity before bureaucracy; THEN identify steps to promote autonomous working. Identify IT fitness for purpose. Identify social skills training for nurses. Identify staff turnover rates.**

UK: *London Guys & St Thomas'*

Context: Service set up in existing NHS service provision. Hard to develop Bg culture and practices due to structural constraints.

Mechanism: Nurses streamlined pre-existing NHS administrative processes to fit holistic care delivery model. They developed flexible shift rosters to maximise contact time with patients and took time back in lieu.

Outcome: Patients identified good aspects of system – named nurse, proactive care, NNs fit care to patient circumstances not vice versa, direct access to NNs, NNs negotiate contact and time with patient.

(Dean 2018; Drennan 2018 a & b; Hamm & Glynn-Jones 2019; Billings et al 2020) Although there was a high level of staff satisfaction with NN, there were big issues of bureaucratic control. The service was set up within existing NHS service provision and it proved difficult

to develop the culture and practices because of the structural constraints. In particular, there were concerns over a perceived lack of governance structure for quality assurance. Developing an affordable financial model to fit NHS circumstances was also identified but no further information was forthcoming as to what 'affordable' means. There were also concerns about the nature of career development in a flat hierarchy. The Neighbourhood Nurses (NNs) made efficient use of their time by streamlining the pre-existing NHS administrative processes to make them fit the holistic care delivery model. Patients easily identified what they thought was good about the system – named nurse, proactive care, NNs fit the care to patient circumstances not vice versa, they have direct access to NNs, NN contact and time is negotiated with the patient. NNs were able to develop flexible shift rosters to maximise their time in contact with their patients and took time back in lieu. There was no NHS data to support the NN project impact on costs/resource use e.g. hospital admission/length of stay/diagnostic group/complexity.

Recommendations: IF transparency and trust are integral to the project; THEN identify structural constraints that might impede development of NN culture and practices. Identify whether NNs streamlined pre-existing NHS administrative processes to fit holistic care delivery model and which processes addressed. Examine shift rosters for evidence of maximising contact time with patients. Identify what patients consider good aspects of system e.g. named nurse, proactive care, NNs fit care to patient circumstances not vice versa, direct access to NNs, NNs negotiate contact and time with patient.

UK: *Tower Hamlets*

Context: Established within existing NHS organisation. NCT based in 1 surgery covering 12k patients. Team caseload 40-60 patients, 7 staff - mixed part-time/full-time and mixed grades, 1x band 4 healthcare assistants.

Mechanism: Introduced enabler role – interface between NCT and NHS Trust. Flat hierarchy but status & experience differentials. Limited start-up time to establish intra-team working relationships and practices. Caseload 6:1, 4-6 visits per day. Flexi work scheduling.

Outcome: NCT staff did not have full operational responsibility for programme budget management. Team dynamics issues. Caseload peaks 10:1 led to work stress. Reduced duplication of input between NHS & LA services so cost savings. NCT work-life balance. Good integration local health and social care services. No quantitative data on patient

hospital admissions, length of stay, admission to nursing home/residential home.

(Lalani et al 2019; Billings et al 2020; Bussu & Marshall 2020) Introduced a Neighbourhood Care Team (NCT) and included the role of enabler to act as interface between NCT and the employing NHS Trust. A big issue identified by NCT staff was that they did not have full operational responsibility for the programme budget management. There were team dynamic issues in working with a flat hierarchy due to status and experience differentials and there was not enough time in the project start up to develop inter-team ways of being. The NCT caseload started out at 6:1 patients/nurses, with nurses carrying out 4-6 visits per day but there were caseload peaks of 10:1 which caused work stress for the team members. There were claims of reduced duplication between the existing District Nursing (DN) service and local authority funded reablement service which should result in overall cost savings but who owns the savings is not addressed. The NCT initiative was highly rated by patients/carers. NCT nurses did not identify IT skills and team management skills as a focus for personal development even though they identified them as barriers to success. The increased flexibility of work scheduling increased NCT members' job satisfaction as they could achieve work/life balance better than when they worked in a standard DN service. They reported good integration with local health and social care services and being based in a GP surgery increased integration. The NCT was based in one surgery covering 12k pts, and the team aimed for 40-60 patients at any one time. There were 7 staff - mixed part-time/full-time and mixed grades with 1 band 4 healthcare assistant. There was no quantitative data on patient hospital admissions, length of stay, admission to nursing home/residential home so comparison could be achieved between NCT and NL Bg.
Recommendations: **IF the project identifies effective use of resources to put people's needs before the organisation's needs: THEN identify extent of co-location with GP. Quantify population served. Quantify number of active patients. Delineate staff mix and skill mix. Identify coach/mentor. Identify whether flat hierarchy exists. Delineate intra-team training on working relationships and practices. Identify nature of caseload. Identify extent of operational responsibility for budgets. Quantify reduction in duplicated LA/NHS services. Identify quantitative data on patient acute admissions, length of stay, admission to nursing/residential care.**

UK: *Scotland – Coldstream*

Context: Scottish national policy – closer to home & personalised care. Pilots commissioned. Teams tailored to local context. Coldstream neighbourhood population - 3.5k people with remote rural component and one care provider. Team has diverse skill mix.

Mechanism: Planned to deliver person centred holistic care; support people to make informed choices about care; reablement approach to support patient self-management; use in/formal local community networks to support people to live well in the community for longer. Weekly neighbourhood care team meetings between DNs and local agencies.

Outcome: partnership working, negotiation and influencing change challenging for team. Managers and traditional hierarchies remain. Identified series of actions needed to bring pilot in line with Bg principles - coaching; reduce admin duplication; use assets-based approach and quality improvement methods; bring executive leads on board to support autonomous team; map MDT working opportunities and processes; co-design roles/responsibilities framework; IT systems to support health and social care communication; build a network with 3rd sector

(Dobie et al 2019): Scottish national policy is to change the health and social care system to bring care closer to home and make it personalised. Pilots have been commissioned via NHS Scotland Living Well in Communities that are small, self-organising, geographically based teams of nurses and carers. Teams are tailored to the local context to deliver person centred holistic care; support people make informed choices about their care; use a reablement approach to support patient self-management; use in/formal local community networks to support people to live well in the community for longer. The Coldstream neighbourhood population is 3.5k people with a remote rural component and one care provider. The pilot focused on people having care from DNs and social care providers.

The pilot was not as successful as was hoped at implementing Bg principles. There were weekly neighbourhood care team meetings between DNs, social workers, care agency manager, and allied health professionals with the aim of integrating care to reduce footfall and improve outcomes. Unfortunately, partnership working, negotiation and influencing change was more challenging for the team than expected. They still have managers, and traditional hierarchies remain which seem to be linked to diverse skill mix in the team.

There's a need for DNs to develop skills to manage complex patients. Areas have been identified that need to be addressed to bring the initiative in line with the principles of Bg – these include facilitate coaching within the team; reduce the duplication of administration work; take an assets based approach and introduce quality improvement methods; get executive leads on board to support the production of an autonomous team; map opportunities and processes for multi-disciplinary team working; co-design a roles/responsibilities framework; bring about IT systems to support health and social care communication; and finally, build a network with the 3rd sector.

Recommendations**: IF the project promotes self-reliance; THEN identify extent of reablement approach to self-management; Quantify extent of MDT working; Identify quality improvement activities; Determine roles/responsibilities framework; Delineate 3rd sector network.**

UK: *Scotland – Moray & Forres*

Context: Scottish national policy – closer to home and personalised care. Pilots commissioned. Teams tailored to local context.

Mechanism: Forres initiated an intermediate care facility plus home care for the community covering 2 GP surgeries.

Outcome: Emergency admissions for over 65s 20% for GP1 but not GP2. No overall reduction in median 28-day emergency readmission rate for over 65s. GP2 patients had downward trend for length of stay, but no change for GP1. Admissions dropped from 42 to 9 [-33]. Average length of stay dropped from 19 days to 7 days [-12]. Admissions costs [minus associated costs with overheads] dropped from £69,028 to £5,347 [-£63,681].

(EEvIT 2019) The project only focused on patients who were having DN and social care input. The pre-existing DN service continued and some patients only had DN input which complicated things. There were Issues around bureaucratic control of the initiative from senior managers. The team found self-management challenging and because the skill mix of the team was diverse, they had to upskill DNs to manage complex cases. ***Forres –*** a different set up to Moray. Forres initiated an intermediate care facility plus home care for the community covering 2 GP surgeries. The rate of emergency admissions for people aged over 65 was down 20% for GP1 but not GP2. There was no overall reduction in median 28-day

emergency readmission rate for patients over 65. For patients linked to GP2 there was a downward trend for length of stay, but no change for GP1. The number of admissions before the initiative was 42, and after was 9 [-33]. Average length of stay before was 19 days, which reduced to 7 days after the initiative began [-12]. The cost of admissions [minus associated costs with overheads] was £69,028 before the initiative and £5,347 after [-*£63,681].*

***Recommendations*: IF the project focuses on self-managing teams; THEN identify the skills needed for self-management, coaching and managing complex cases. IF the programme theory takes an holistic approach to caring for people; THEN identify extent that initiative fitted to local context. Identify before and after data for emergency admissions; emergency readmissions; length of stay; admissions costs.**

UK: *Scotland – Aberdeen*

Context: Scottish national policy – closer to home & personalised care. Pilots commissioned. Teams tailored to local context. Teams 2x 3RNs and 3support workers delivering integrated care. Flat hierarchy. One team not co-located with GP services.

Mechanism: No self-management preparation. Not recruiting RNs with Bg mindset. Health and social care senior managers not communicating with each other leading to contradictory communications. DN service didn't follow agreed referral processes.

Outcome: 43 patients in first 4 months. High patient satisfaction re focus on person centred care and reablement; partnership working with family/friends; social prescribing; perceived improvement in well-being: increased self-assurance, efficacy, learning, making positive choices, mental health, reduced loneliness, making meaningful relationships with staff. Staff satisfaction mixed. Staff confusion due to mis-communication from managers. Competition between/within teams. Flat hierarchy compromised by status issues. Workload fluctuated. Staff liked patient focused care, and spending time as needed. Continuity of care/r compromised by small teams and not being co-located.

(Leask & Gilmartin 2018; Leask et al 2020) Integrated Neighbourhood Care Aberdeen [INCA] consisted of 2 teams comprised of 3RNs and 3support workers per team delivering integrated care. They recruited 43 pts in the first 4 months of the project. There was high patient satisfaction with the service, and they commented favourably on the focus on

person centred care and reablement; partnership working with family/friends; social prescribing component to the service; perceived improvement in well-being: increased self-assurance, efficacy, learning, making positive choices, mental health, reduced loneliness, making meaningful relationships with staff.

There was mixed satisfaction from INCA staff. They perceived a lack of preparation for self-managing which was exacerbated by not necessarily recruiting RNs with the mindset for Bg working. In particular staff identified an issue of tension in the provision of nursing care vs social care. Health and social care senior managers were perceived as not communicating with each other which lead to contradictory communications and confusion in teams. There was also competition between/within teams and status issues compromised the flat hierarchy. The existing and continuing DN service didn't follow agreed referral processes when their own work environment was quiet. INCA staff liked the patient focused care and having the ability to spend time as needed. The issue of continuity of care/r was compromised by having small teams and one team not co-located with GP services. No data was reported on patient outcomes per se.

***Recommendations*: IF the project emphasises team self-management: THEN identify extent of co-location. Identify if newly constituted team. Identify recruitment practices. Examine cross agency communication practices at senior manager level. Identify referral processes. Identify social prescribing activity. Identify measurement of patient well-being. Identify extent of patient self-efficacy. Identify extent of intra/inter team competition. Identify functioning of hierarchy. Identify workload variance over time. Identify visit duration, frequency, time of day. Identify extent of continuity of care and carer.**

UK: *West Suffolk*

Context: Team co-located with GP surgery in rural village in existing NHS service. Piecemeal recruitment process over a protracted period. Staff on short term contracts and time related secondment. Team caseload of 16-20 patients (1 nurse: 3 patients).

Mechanism: Team involved in HR recruitment functions. Insufficient training for all staff on self-management. Staff able to give time and personalised care.

Outcome: Did not recruit to establishment. Team building activities and staff morale affected. Mass staff exodus after 12 months. Minimal work for staff to do. Staff report good experience of networking. Disconnect between the idealism of working group/steering

group (senior staff from NHS/local authority/3rd sector organisations) and practical reality experienced by Team.

(Bowen 2017; Maybin et al 2019; Billings et al 2020) The Neighbourhood Nursing Care Team (NNCT) had a faltering start, and nearly fell over during the first year of its existence. They never managed to recruit enough staff to their establishment in the first 12 months. The team members report becoming bogged down in HR recruitment functions which were time consuming and the NHS Trust HR department were slow to respond to their requests. This piecemeal recruitment process over a protracted period affected team building activities and staff morale. There was a mass exodus after 12 months due to the completion of short-term fixed contracts and expired secondment arrangements. Staff report feeling worn out, afraid of deskilling and implications for future employment, frustration with slow development pace of the project, and IT systems not fit for purpose. They were not clear what self-management actually meant and at times there appeared to be no management. A small team caseload of 16-20 patients (1 nurse: 3 patients) meant that there was minimal work to do. Staff report a good experience of networking though, and co-location with the GP surgery in the village helped. They talk about a disconnect between the idealism of working group/steering group (populated with senior staff from NHS and local authority/3rd sector organisations) and the practical reality experienced by NNCT staff. There was no data presented on patient outcomes per se. Staff report that patients like the service and they were able to give time and personalised care.

Recommendations: **IF self-management features in the project: THEN identify recruitment practices. Delineate employment arrangements. Identify caseload ratio. Identify team involvement in recruitment. Identify training in self-management. Identify if teams met establishment. Identify coherence of vision between steering group and team.**

US: *Minnesota*

Context: US Bg legally constituted non-profit organisation with Minnesota Comprehensive Home Care license. Contract with a Humana subsidiary to provide care and co-ordinate services. Challenges include a worsening nursing shortage, tough regulatory system, need for measurable outcomes, complicated payment system of private, state and federal payers, low quality measures for home care, limited affordability and potential changes due to Obamacare.

Mechanism: Needs to raise awareness among local healthcare/social service organisations to receive referrals; be eligible to bill Medicare/Medicaid; adapt Bg NL IT systems for use in the US.
Outcome: No concrete data on initiative in public domain.

(De Blok & Kimball 2015; Gray et al 2015) There is very little concrete data about this initiative. After an initial flurry of PR type papers things have gone quiet in the literature. US Bg is legally constituted as a non-profit organisation with a Minnesota Comprehensive Home Care license and a contract with a Humana subsidiary to provide care and co-ordinate services. In order to progress, US Bg needs to raise awareness among local healthcare/social service organisations; be eligible to bill Medicare/Medicaid; and adapt Bg NL IT systems for use in the US. The challenges faced by Bg include a worsening nursing shortage, tough regulatory system, need for measurable outcomes, complicated payment system of private, state and federal payers, low quality measures for home care, limited affordability and potential changes due to Obamacare.
***Recommendations*: IF the project focuses on neighbourhood; THEN identify awareness of initiative among local organisations.**

Finland
Context: 7 care home services S. Finland - 6 city based and 1small municipality service. 60 team members and 3 team leaders. Staff mix 10-15% RNs, majority Practical Nurses.
Mechanism: Home help and home care services merged into common organisations. Organisations took increased number clients regardless of available resources. After hiatus - 30 new home care teams recruited with 650 employees.
Outcome: 3/6 city teams left project. After hiatus - staff satisfaction mixed. Experienced time pressure and overwork. Planned work schedule interruptions led to mental strain. Staff readiness to implement new practice led to less stress. Staff reported improved care fitting client need. Evaluators unable to capture costs.

(Jantunen et al 2020) Finland Bg tried to introduce the Bg process into large health and social care organisations. It started with 7 care home services in southern Finland - 6 city based and 1small municipality service. There were 60 team members and 3 team leaders.

Home help and home care services were merged into common organisations. The staff mix was 10-15% RNs, with the majority being Practical Nurses. Organisations had to take an increased number clients regardless of the available resources. Three of the 6 city teams left the project, and 30 new home care teams were recruited with 650 employees. There are mixed results in terms of Finnish Bg nurse job satisfaction and no information is presented from patients on their experience. Staff reported experiencing time pressure and overwork. Interruptions to planned work schedules led to mental strain. However, the staff's readiness to put new ideas into practice led to less stress and they reported perceptions of improved care fitting client need. The evaluation authors tried to capture costs but were unsuccessful. ***Recommendations*****: IF there is IT services that support real-time re-scheduling; THEN Identify the extent of home help input. Identify any time pressure and/or overwork. Identify any mental strain from work schedule interruption. Identify staff fitting care to client need. Identify associated costs.**

Collated recommendations after duplications removed and cleaning

IF there is a Patient Centred Ecological Focus

THEN Consider existing framework of structure, culture and practices to identify a patient centred ecological focus

Look for patient care needs being put before the organisation needs

Identify staff fitting care to client need

Look for promotion of patient self-management

Identify extent of patient self-efficacy

Identify extent of reablement approach to patient self-management

Identify extent of only addressing medical tasks

Look for evidence that home environment and social network present in nursing activity

Identify healthcare related prevention activity

Identify extent of continuity of care and carer

Identify extent that NN initiative fitted to local context

IF there is a mixed delivery team

THEN Identify team composition and hierarchy

Identify if newly constituted team

Identify recruitment practices

Delineate employment arrangements

Identify proportion of staff trained for community nursing

Look at skill mix to support care delivery

Look at staff mix to support care delivery

IF Family/Informal Carers are to be involved in delivering care

THEN Identify relationship with family members/informal carers

Determine input of family members/informal carers

Identify training of family members/informal carers

IF there are changes to Team working practices

THEN Capture absence rates

Identify care delivery costs

Quantify number of hours of care delivered by community nurses vs informal carers

IF Teams are expected to have real-time access to information

THEN Review community nurse access to information – nursing activity; workloads; budget/costs; support/coaching; patient feedback

Identify IT fitness for purpose

Identify whether NNs streamlined pre-existing NHS administrative processes to fit holistic care delivery model and which processes addressed

IF patients are expected to be satisfied with changes in the delivery system

THEN Identify what patients consider good aspects of system e.g. named nurse, proactive care, NNs fit care to patient circumstances not vice versa, direct access to NNs, NNs negotiate contact and time with patient.

IF staff are expected to be satisfied with the changes to their working practices

THEN Identify prevalence of team disputes

Capture extent of out of hours working to meet client need

Identify staff turnover rates

Identify any mental strain from work schedule interruption

Identify extent of intra/inter team competition.

IF there are changes to caseload functioning

THEN Identify referral processes into caseload

Capture patient length of time on active caseload

Identify caseload ratio nurses: patients

Determine continuity of care and care

Capture visit duration, time of day and frequency

Identify caseload characteristics re: frailty and mortality rates

Identify steps to promote autonomous working

Examine shift rosters for evidence of maximising contact time with patients

Identify workload variance over time

IF patient referral/admission practices to hospital are changed

THEN Identify quantitative before and after data on emergency admissions/readmissions, length of stay, admission to nursing/residential care, admission costs

Determine referral pattern – admission/discharge date, admission/discharge location i.e. hospital/residential/nursing home

IF staff are fitting the service to location and population need

THEN Identify extent of co-location with GP

Quantify population served

Quantify number of active patients on caseload

Identify team's capture of population health data

IF staff are using community resources and working with other agencies/MDT

THEN Quantify extent of MDT working within NHS/across other agencies

Examine cross agency communication practices at senior manager level

Identify social prescribing activity

Delineate 3rd sector network

Identify extent of social care availability

Identify the extent of home help input

Quantify reduction in duplicated LA/NHS services

Identify partnership and Trust working practices that act as barrier to team functioning

IF staff are improving the service to patients and families

THEN Identify quality improvement activities

Look for a system of 'learning by doing' and 'trial and error' in applying principles and values

Identify measurement of patient well-being

IF staff are self-managing

THEN Identify self-management of resources (human, equipment, finances)

Identify role of coach, coaching and/or mentoring

Identify team involvement in recruitment

Identify training in self-management, working relationships and practices

Identify if teams met staffing establishment

Identify coherence of vision between steering group and team

Identify any time pressure and/or overwork

Look for admin back up to support frontline activity

Determine roles/responsibilities framework within team

Issues to consider from analysis:

1. Difficult to maintain self-management autonomy of team in NHS environment.
2. Working in flat hierarchy can be challenging for team members regardless of experience/skill level – requires different communication/social skills.
3. Preparation and training for cultural change needed by wider community nursing workforce, managers and stakeholder. Training also needed to be reflected in HEI curricula preparing under-graduate and post-graduate students.
4. Limited evidence on outcome measures for patient care.
5. Maintaining work/life balance can be challenging when maintaining continuity of care/r.
6. Existing NHS IT systems can seriously undermine the efficiency of the team Bg/NN governance issues remain challenging for NHS organisations.

7. Team office location important for networking – advantage to being co-located with GPs.

Program theory developed from findings below to support the evaluation:

- Minimise bureaucracy through IT system and team structure.
- Cultural change managed for DNs, managers and stakeholders e.g. HR and recruitment processes changed to be appropriate to the new culture.
- Empowered DNs to be part of strategic decision making for service.
- IT system developed to deliver the system you require and not what you have at present – to include agreed core dataset (including patient outcomes), dashboard minimum standard reports comparable across Wales.
- Transparency in knowledge and information sharing.
- Community of practice to support governance, team clinical and social skills development and policy.
- Person-centred holistic assessment - includes social, clinical, and reablement approach to care.
- Self-managing teams based on qualifications requiring DN and whole team skill set (social and clinical) to meet patient geographical need.
- Identified social skills for nurses to deliver a holistic assessment and holistic care delivery.
- Identified self-management skills, complex case and IT skills required for DN.
- Mixed nursing team with back end system to maximise nursing resource for patient care.
- Team need to identify steps towards autonomous working.
- Governance structures needed for quality assurance.
- Management communication mapping required inside and outside of the team.
- Devolve budget management to the neighbourhood team.
- Flexible shift rosters to meet patient need.
- Need to manage time pressures, caseload and overwork to avoid stress.
- Identify career progression/ pathway if pursuing a flat structure.
- Role of coach in supporting solution-focused problem solving, ways of working to

support self-management, and developing governance mechanisms within the team.

- Relationships with carers and community neighbourhood is key.
- Use a reablement approach to support patient self-management.
- Identify how staff are/can fit care to client need.
- Partnership and trust to develop a more co-productive care delivery model with carers/family. Negotiate role with carers and upskill carers to take on roles such as medicines, wound care etc. Develop wider social/community /neighbourhood assets and links.
- Develop a social prescribing approach. Key to this is the RN role and holistic assessment. Draws on a model of neighbourhood resources, family and friends resulting in reduced hours and costs
- Use local networks, local assets to support living well in the community.
- Identify the extent and type of co-location.
- Need some form of population needs analysis to fit service to patient requirements.
- Need for measurable outcomes.
- Understand costs.

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ANNEX D: The Service Data Analysis

Data quality and limitations

The core purpose of a pilot is to test whether a different approach leads to different results and outcomes. In this case, to understand whether there are any differences between the new approach (the pilot sites) when compared with the usual approach (the non-pilot sites). Therefore, service data occupied an important role in the development of these Neighbourhood District Nursing (NDN) pilots. There are several key data fields that are routinely kept as part of the delivery of the Wales District Nursing principles (see Table D2) which were also collected by the pilot sites.

There was no agreement for this pilot on what constituted a specific minimum dataset to be collected consistently and longitudinally across the three pilot sites during the pilot phase. Additionally, there was no requirement to separately collect pilot site data from the non-pilot sites (the usual district nursing teams). This meant that there was no consistent 'control' in the data collection available to be used in data analysis.

However, one of the three health boards in the pilot did collate data for their pilot sites separately from their non-pilot sites, and we are able to compare between the pilot and non-pilot sites for this health board. No meaningful analysis can be undertaken for the other two health boards to determine whether there were any differences between the pilot and non-pilot sites, see below:

Health board 1

Data for the pilot team was kept separate from data for the non-pilot teams, and data from the pilot area was kept separate from the non-pilot areas. This means we can analyse differences between the pilot and the non-pilot teams and areas for health board 1. That analysis is provided in the pages that follow.

Health board 2

There are pilot teams in two of the areas where the district nursing service operates. However, we are not able to make comparisons between the areas that have pilot teams because these areas also contain non-pilot teams. This means that health board 2 have not been able to disaggregate the pilot from the non-pilot data within this area. No comparison can be made between the new approach (NDN pilot teams) and the standard approach (non-pilot district nursing teams). No meaningful data analysis could be undertaken, and no data from health board 2 is presented in this section of the report.

Health board 3

The district nursing teams for health board 3 are spread over three clusters. In two of these clusters there are both pilot and non-pilot teams. Unfortunately, none of this data could be disaggregated by health board 3. No comparison could be made between the new approach (NDN pilot teams) and the standard approach (non-pilot district nursing teams). As for health board 2, no meaningful data analysis could be undertaken, and no data from health board 3 is presented in this part of the report.[1]

NB: We are **not** saying that no differences exist between the pilot and non-pilot sites in health boards 2 and 3. Such differences may exist, and there is evidence elsewhere in this report that suggests there could be differences in the service data for health boards 2 and 3. The problem is that we are not able to compare between the pilot and non-pilot sites (for the reasons outlined above) and we are not able to analyse whether the service data for the pilot sites for health boards 2 and 3 are different to the non-pilot sites. This is a limitation that needs to be addressed.

Data analysis

There are comparisons that can be made for health board 1. The most robust data was collected against the Wales District Nursing Principles. The comparison between pilot and non-pilot sites has been made using these data. The analysis is presented in Table 1 below.

[1] There is a small caveat to this: it was possible to isolate the three pilot teams from the non-pilot teams for three metrics: staff absence levels, banks staff expenditure, and emergency hospital admissions. However, the data did not show any statistically significant differences between the pilot teams and the non-pilot teams.

The differences between the pilot and non-pilot sites for health board 1 were analysed in two ways:

1. Data was compared from the one pilot area (known as the Neighbourhood Community Nursing [NCN] area) with the other non-pilot areas in health board 1
2. Data was compared from the one pilot team (known as the Team Name, or TN data) with the other non-pilot teams in health board 1.

This gave two ways of comparing the same data. Health board 1 had presented the dataset structured by area, and it had structured the same dataset by team, so we had two sets of comparisons, but they need to be treated with caution. It might be reasonable to assume that where there were differences between the pilot area compared with the non-pilot areas, we would also expect to see differences between the pilot team when compared with the non-pilot teams. That was not always the case. Table D1 draws on 13 different data sources from the Wales District Nursing Principles dataset. For these 13 different data sources:

- On 6 occasions, the NCN and TN data **both demonstrate that there is a difference** between the pilot and non-pilot sites[2]
- On 2 occasions, the NCN and TN data **both demonstrate that there is no difference** between the pilot and non-pilot sites

but

- On 5 occasions, **there is disagreement in the data.** The TN data suggest there is a difference between the pilot and non-pilot data, but the NCN data suggest there is no difference between the pilot and non-pilot data.

This means the data needs to be interpreted very carefully and cautiously at this stage. Table 1 also indicates the direction of any differences – whether the data from the pilot area (NCN) or team (TN) is higher or lower than for the non-pilot areas or teams.

[2] This situation is further complicated by the fact that on one of these occasions, the data point to different differences for the same variable i.e. the NCN data suggests that the pilot area data is **lower** than the non-pilot area data, whilst the TN data suggests that the pilot team data is **higher** than the non-pilot team data.

Conclusions

It is pleasing to see that there are differences emerging between the pilot and non-pilot areas and teams in health board 1. However, we issue a note of caution as there are no statistically significant differences to be found in Table 1 data. There are indications of data beyond the 95% confidence intervals (CIs) suggesting that differences exist, but these are not statistically significant. There are differences when the same data (the Wales District Nursing Principles for health board 1) is analysed by team as opposed to by area. This has led to different conclusions being drawn about whether differences exist, and whether the data is demonstrating that the pilot data is higher or lower than the non-pilot data. More work is needed to improve the quality of the data capture to be clear about what the data tells us.

Table D1: Analysis of differences between pilot and non-pilot data from Health Board 1

Aspects of the District Nursing Principles	Variable	Description of analysis	Do differences exist between the pilot sites when compared with non-pilot sites?	
			Neighbourhood Community Nursing (NCN) area data	Team Name (TN) data
3a. The skill mix within district nurse led teams should be predominantly nurse registrant supported by health care support workers dependent on the patients' care needs.	Skill mix within the cluster as a % of RN staff	The 95% Confidence Intervals (CIs) for NCN and TN groups do not include the pilot areas. [NCN_CI: (84.6, 88.9), TN_CI: (84.7, 88.3)]. The assumptions for CI computation were satisfactory. This implies that, on average, the pilot area/team do not behave similarly to the non-pilot areas/teams.	**Yes** Pilot area data = **lower** than non-pilot area data	**Yes** Pilot team data = **lower** than non-pilot team data
4a. Each district nursing team or unit should have a clinical lead District Nurse with a NMC recordable qualification (SPQ) or a post registration community nursing degree and leadership training. At least 20% of their time should be spent on case management and at least 20% of their time undertaking supervisory activities, aiming towards a full time supernumerary role as the needs of the team or unit dictate.	Team Lead Band 7 qualification data	NCN area CI includes the pilot area implying that, on average, the pilot area behaves similarly to the non-pilot areas. [NCN_CI: (1.8,2.5)] TN CI does not include the pilot team implying that, on average, the pilot team does not behave similarly to the non-pilot teams. [TN_CI: (0.9, 1.2)]	No	**Yes** Pilot team data = **lower** than non-pilot team data
	% of time spent on caseload management data	NCN area CI includes the pilot area implying, on average, that the pilot area behaves similarly to the non-pilot areas. Three CIs were calculated [NCN_CI1: (31.6, 48); NCN_CI2: (0.8, 1.3); and NCN_CI3: (44.9, 55.4)]. TN CI does not include the pilot team implying, on average, that the pilot team does not behave similarly to the non-pilot teams. Three CIs were calculated [TN_CI1: (18, 22.2); TN_CI2: (0.5, 0.6); TN_CI3: (46.4, 56.7)].	No	**Yes** Pilot team data = **lower** than non-pilot team data
	% of time spent on supervisory duties	NCN area CI includes the pilot area implying, on average, that the pilot area behaves similarly to the non-pilot areas. Three CIs were calculated [NCN_CI1: (13, 24.2); NCN_CI2: (0.3, 0.6); and NCN_CI3: (16, 29.8)]. TN CI does not include the pilot team implying, on average, that the pilot team does not behave similarly to the non-pilot teams. Three CIs were calculated [TN_CI1: (7.3, 11.4); TN_CI2: (0.2, 0.3); TN_CI3: (19.1, 27.6)].	No	**Yes** Pilot team data = **higher** than non-pilot team data
	% of time spent on admin duties	NCN area CI includes the pilot area implying, on average, that the pilot area behaves similarly to the non-pilot areas. Three CIs were calculated [NCN_CI1: (16.2, 29.8); NCN_CI2: (0.4, 0.8); and NCN_CI3: (17, 28.9)]. TN CI does not include the pilot team implying, on average, that the pilot team does not behave similarly to the non-pilot teams. Three CIs were calculated [TN_CI1: (9, 14.3); TN_CI2: (0.2, 0.4); TN_CI3: (18.1, 26.7)].	No	**Yes** Pilot team data = **lower** than non-pilot team data

Aspects of the District Nursing Principles	Variable	Description of analysis	Do differences exist between the pilot sites when compared with non-pilot sites?	
			Neighbourhood Community Nursing (NCN) area data	**Team Name (TN) data**
5a. There should be at least one deputy team leader District Nurse with a recordable qualification (SPQ) or a post reg. manager within each district nursing team.	Team Lead Data Band 6 - qualification data	NCN area CI includes the pilot area implying that, on average, the pilot area may be regarded as behaving similarly to the non-pilot areas [NCN_CI: (1.1, 2.2)]. TN CI does not include the pilot area implying that, on average, the pilot area does not appear to behave similarly to the non-pilot areas [TN_CI: (0.7, 1)].	No	**Yes** Pilot team data = **lower** than non-pilot team data
6a. To promote the continuity of an individual's care and to develop expertise about assets within a community, each district nursing team or unit within a cluster should have a staffing complement of no greater than 15 staff / 12 WTE.	Total Budgeted WTE	*The normality assumption for CI computation was not satisfactory, so Wilcox CIs are shown.* Both NCN area CI and TN CI exclude the pilot area/team, implying that, on average, the pilot area/team may not behave similarly to the non-pilot areas/teams [Wilcox NCN_CI: (21.3, 27); Wilcox TN_CI: (10.6, 13.6)].	**Yes** Pilot area data = **higher** than non-pilot area data	**Yes** Pilot team data = **higher** than non-pilot team data
8a. Each team should have access to at least 15 hours administration support per week.	Budgeted WTE of Admin	*The normality assumption for TN was not satisfactory, so Wilcox CIs are shown.* Both NCN area CI and TN CI include the pilot area/team, implying that, on average, the pilot area/team may be regarded as similar to the non-pilot areas/teams [Wilcox NCN_CI: (1.4, 1.9), Wilcox TN_CI: (0.7, 0.8)].	No	No
	Admin Staff in Post (WTE)	*The normality assumption for TN was not satisfactory, so Wilcox CIs are shown.* Both NCN area CI and TN CI include the pilot area/team, implying that, on average, the pilot area/team may be regarded as similar to the non-pilot areas/teams [Wilcox NCN_CI: (1.2, 2), Wilcox TN_CI: (0.7, 0.9)].	No	No
	Admin Vacancies (WTE)	*Data are clustered mostly around 0 therefore no CIs were computed.* Both NCN area and TN score higher than 0, implying that they may be regarded as dissimilar to the non-pilot areas/teams.	**Yes** Pilot area data = **higher** than non-pilot area data	**Yes** Pilot team data = **higher** than non-pilot team data

Aspects of the District Nursing Principles	Variable	Description of analysis	Do differences exist between the pilot sites when compared with non-pilot sites?	
			Neighbourhood Community Nursing (NCN) area data	**Team Name (TN) data**
10. Caseload and skill mix	Budgeted WTE for RGN	Both NCN area CI and TN CI exclude the pilot area/team, implying that, on average, the pilot area/team may be regarded as dissimilar to the non-pilot areas/teams [NCN_CI: (18.4, 23.5); TN_CI: (9.2, 11.9)].	**Yes** Pilot area data = **higher** than non-pilot area data	**Yes** Pilot team data = **higher** than non-pilot team data
	Budgeted WTE for HCSW	NCN area CI excludes the pilot area implying that, on average, the pilot area may be regarded as very dissimilar to the non-pilot areas [NCN_CI: (1.5, 2.6)]. TN CI does not include the pilot area implying that, on average, the pilot area may be regarded as dissimilar to the non-pilot areas [TN_CI: (0.8, 1.3)].	**Yes** Pilot area data = **higher** than non-pilot area data	**Yes** Pilot team data = **higher** than non-pilot team data
	Budgeted WTE for NCN HCSW	NCN area CI excludes the pilot area implying that, on average, the pilot area may be regarded as dissimilar to the non-pilot areas [NCN_CI: (1, 1.3)]. TN CI does not include the pilot area implying that, on average, the pilot area may be regarded as dissimilar to the non-pilot areas [TN_CI: (0.4, 0.7)].	**Yes** Pilot area data = **lower** than non-pilot area data	**Yes** Pilot team data = **higher** than non-pilot team data

Table D2: List of DN Principles – variable names

DN principles – variable names
1. Identifiable DN Cluster Leadership
2. DN Teams configured to be coterminous with the Cluster
3. No of teams that cover this cluster
4. WTE of team in post with SPQ or post reg community nursing degree
5. Total Hours (Time spent on Caseload Management (per week))
6. Total WTE (Time spent on Caseload Management (per week))
7. % of time spent on case management (Time spent on Caseload Management (per week))
8. Total Hours (Time spent on Supervisory duties (per week))
9. Total WTE (Time spent on Supervisory duties (per week))
10. % time spent on supervisory activities (Time spent on Supervisory duties (per week))
11. Total Hours (Time spent on Admin/Other duties (per week))
12. Total WTE (Time spent on Admin/Other duties (per week))
13. % time spent on admin activities (Time spent on Admin/Other duties (per week))
14. WTE of team in post with SPQ or post reg community nursing degree
15. Budgeted WTE for RGN (excl CCN)
16. Budgeted WTE for HCSW
17. Budgeted WTE for NCN HCSW
18. Total Budgeted WTE
19. % of uplift funded within cluster establishments
20. More than 26 9% Uplift
21. Is the team predominantly RGN?
22. Skill mix within the cluster as a % of RN staff (Refer to instruction tab)
23. Budgeted WTE of Admin
24. Budgeted hours a wk admin support available
25. Admin Staff in Post (WTE)
26. Admin Staff in Post (Heads)
27. Admin Vacancies (WTE)
28. RGN Staff currently in Post (WTE) (excl CCN)
29. RGN Staff in Post (Heads) (excl CCN)
30. HCSW Staff in Post (WTE)
31. HCSW Staff in Post (Heads)
32. NCN HCSW Staff in Post (WTE)
33. NCN HCSW Staff in Post (Heads)
34. RGN Vacancies (WTE)
35. HCSW Vacancies (WTE)
36. NCN HCSW Vacancies (WTE)
37. Total Vacancies
38. Number of RGN Staff with SPQ (WTE)
39. Number of RGN Staff with SPQ (Heads)

ANNEX E: The Qualitative Findings from Document Analysis, Staff and Stakeholder Principal Findings.

When considering the qualitative findings, we return to the overarching evaluation questions, 'to what extent have all the elements of the NDN pilot been delivered effectively?**', and '**what difference does the NDN model make for people, staff, practitioners and wider stakeholders?**' We consider these questions here case by case.**

Case study 1- Aneurin Bevan University Health Board (ABUHB)

The aim of the NDN pilot in ABUHB was, *'to provide person-centred, coordinated and prevention focussed care that enables people to self-manage their conditions, through formal and informal networks, with the support of a self-managed neighbourhood nursing team'.* The NDN pilot in ABUHB was coterminous with the Newport East Cluster and included Newport East and Newport Central East teams. It reported a slow start in establishing the pilot due to staff shortages (maternity leave) and the late inclusion of 'grass roots' staff in the planning and design team (Interview AB 12.10.20dp). However, on reflection staff described it as 'a joint approach' with 'buy-in from Divisional and the Nurse Director and the Chief Exec' (Interview NN ABUHB 12.10.20sw).

There are three key identified principles to the ABUHB NDN pilot model:

1) person-centred holistic care

2) self-managing teams

3) continuity (Document DA9).

The design features of the model included Mental Health First Aid, Trial without Catheter (TWOC), End of Life Care, IT systems, Virtual Wards, Strengths based leadership. There was a proactive approach to care which came from a number of aspects - using population assessment and local data in the planning stage, implementing and reporting to be compliant with the District Nursing Principles (Document DA5), partnership working, Care Aims training, the 'what matters' conversation, holistic assessment, a range of skills to support the registrant, and a change in leadership philosophy (Document DA29).

Table E1 summarises the context mechanism and outcome configurations which resulted after analysing the ABUHB data using the realist approach.

Table E1: Summary of ABUHB CMO configurations

Summary of CMO - The conversation
• Identification of prolonged dependency on DN services triggers an alternative type of conversation with the individual and family which can result in positive impacts for individual, family and DN service (reduction in caseload) (Documents DA1, DA5, DA9, DA11, DA23, DA4, DA22) • If a family is asked to support an individual, they may perceive the change in service delivery as a failure of the service to support the individual and make a complaint. In further conversations between the NDN and family, they can negotiate alternative arrangements that give individual and family benefits, such as an enhanced sense of freedom and control of social care support when required. Service benefits include an agreed reduction in use of NDN resources (Documents DA22, DA23, DA5, DA4)
Summary of CMO - Using a 'what matters to them [me]' focus
• If a NDN conducts a holistic assessment with the individual and their family at home this can trigger NDN understanding of the balance between 'what matters' to the individual and family, and the clinical need. This results in a co-produced care plan, which can lead to further positive impacts for individual outcomes and the NDN caseload (Documents DA4, DA20, DA22).
Summary of CMO - Compassionate leadership philosophy
• If services deliver training together for staff from multiple grades it leads to a shared sense of all grades working together towards the same vision. This increases confidence in decision making and a sustainable delivery of the new philosophy of care. • A combination of Care Aims training with continued manager support leads to an alteration in service definition and caseload, and staff report smaller albeit more complex caseloads and delivering better quality of care.

Summary of CMO- Delivering self-managing teams
• Care Aims training with manager support leads to a change in conversation with the patient and family resulting in a 'joint contract in care' and a reported reduction in case load size.
Summary of CMO –Advanced care decision plans (ACPs)
• ACP initiative triggers inclusive discussions with care homes and families and what matters to individuals who have lost or will lose capacity. This reportedly results in a reduction in crisis intervention, improves patient choice and families feeling supported.
Summary of CMO - Distributed coaching and mentoring role
• If the newly introduced Care Aims perspective is to be sustainable then it will need time and permission for experienced team members to share the learning with new team members and support them to make decisions about a case. This increases confidence in decision making and a sustainable delivery of the new philosophy of care. • In an organisational environment where you have workforce rotation between workplaces, a combination of older staff, new recruits and students it takes time to embed the new NDN philosophy (Interview NNABUHB 201016dp).
Summary of CMO - Using a data driven approach
• A population assessment identified a gap in between service delivery and population need for mental health first aid which resulted in skills training. • A combination of training and population assessment of need identified areas for improvement and development and skills training. As a result staff acknowledged after training that they had the skills and vision to change service delivery and promote patient independence.
Summary of CMO - Mobile technology and an e-scheduling system
• If the service spends time planning the introduction of Malinko e-scheduling with staff of all grades to create the required specification, then this will lead to increased usability, less frustration and problems on implementation. • If the service embeds e-scheduling into the service delivery then they will experience a reduction in missed visits, reduce nonclinical contact time which results in reported increase in patient safety and improved productivity.
Summary of CMO-A range of new skills
• Bridging the gap between hospital and home to promote continuity of individual care has

identified new skills such as delivering IV antibiotics, and TWOC at home which can result in a positive impact on hospital waiting times and hospital admission avoidance.
Working together with other health professionals
• Sharing data and information across professional disciplines and divisions triggered a new partnership initiative (TWOC) which resulted in positive patient stories and reported reduction in NDN caseload.
Summary of CMO – District Nursing Staffing Principles
• Training needs analysis and data driven care (population assessment, local data, training analysis) triggers informed professional judgement which may lead to NDN team leader determining NDN establishment. • Data identified insufficient capacity for band 7 supernumerary which triggered increase in team skills mix, renewed clinical skills capacity and staff empowerment which resulted in reported increase in staff morale, reduction in caseload size and felt increase in patient complexity on the caseload.

1. **Delivering Person Centred Holistic Care**

The ABUHB NDN pilot addressed the first principle using two key approaches; firstly, by proactively altering the initial conversation (Care Aims) with individuals and their families and secondly, by using 'what matters to them [me]' as a focus for decision making and holistic assessment (DA1, DA28, DA29).

The conversation - This theme is key to delivering the principles of person-centred holistic care identified by the NDN model and to the transition from a usual district nursing care approach to the new proactive NDN philosophy of care delivery. It is described by one member of staff as '*our big changing moment*' (Interview NN ABUHB 201016dp).

Training using the Care Aims Framework and Approach has been used to achieve cultural change ('proactive approach to patient care') and to provide staff with the confidence to have the conversation and skills by which they can deliver self-care management and manage individual and family expectations. The Care Aims Approach, *'is a population-based, person-centred approach to provision based on the fundamental ethical principal that all*

public services have a duty to do the most good and least harm for the most number of people in the populations they serve, within the resources they have available'. It requires staff to ask the question, *"can I help change the impact of this problem on this person's life, and am I the best person to offer this help?'* (Document DA1). Providing the training has given staff permission to engage in a different type of conversation with individuals, their families and NDN stakeholders. The purpose is to increase individual and family independence, build the individual and/or family capabilities and gradually withdraw support to enable self-management. This may contribute towards the release of NDN time to focus on prevention and a proactive approach to individual care (Documents DA1, DA5).

The Care Aims evaluation indicated that ten NDN staff reported that they strongly agreed that they had experienced a difference in job satisfaction soft skills after they had attended a programme training session (23rd August 2019). These soft skills included increase in motivation, feeling valued and respected by the team, confidence in applying learning, caseload was appropriate, their own reasoning was valued and heard, making a positive difference to patients and feeling that the care they delivered was safe, effective and person centred (Document D24). In 2019, the project board asked for the training department 'to explore how to standardise its approach and where to take it next' (Document DA17). It was also reported that it isn't included in HEI district nursing SPQ (specialist professional qualification) education (Interview NN ABUHB 201015dp).

The conversation itself is described in the pilot documentation in several ways:

- as a *'solution-based conversation following on from what outcomes matter to the patient and ensuring individuals are supported by those that know them best wherever possible'* (Document DA1 DA4),
- *'discussion'* (Document DA20) or
- '*what matters to her [me, them]'* (Document DA4, DA9, DA11) or
- '*who is best placed to provide care discussion'* (Document DA22) or
- a '*discussion around better use of resources and efficient [use] of the service and more effective use of community nursing times*' (Document DA22),
- or '*asking the patients to define a good outcome for themselves, not a good*

treatment package or intervention' (Document DA4).

The conversation used by NDNs appears to be a combination of 'what matters to me', duty of care and professional judgment on the efficient use of resources. Specific content of the discussion and how it's structured is not described (Document DC8).

The individual case studies at the beginning of this report demonstrate how a person-centred approach can be achieved through using an alternative type of conversation and focussing on what matters to the individual. This is reported as resulting in promoting independence and achieving the clinical outcomes required to promote health and well-being (Interview NN 201015dp).

'...*us going in is not necessarily best for that patient because you're limiting their empowerment or their self-esteem I think because you're coming in and you're taking over. You're not giving them the chance to say, 'well this isn't my body. This is what I want to do.' With the Care aims we're trying to encourage them and to take that ownership, I think it's empowered them and made them a bit more appreciative of the fact that they can do better by us not coming in* (Interview ABUHB 12.10.20dp).

The individual case study in Document DA22 demonstrates how withdrawing prolonged district nursing services can be achieved through using an alternative type of conversation with the individual and family. This initially resulted in the family agreeing to provide the care (change of leg bag) required by the individual. However, this example also shows that self-care management may not be just about the family taking up the role but using other resources to achieve the same end (Document DA4, DA22). Managing the expectations of individuals and their families (and their reflections on conversations) are immediately important. Quickly moving the complaint procedure through to a positive change of impact for individual and family can be achieved by negotiating alternative arrangements. In this case with domiciliary care arranged by the family appropriately using the individual's attendance allowance. Training needs analysis (Interview ABUHB 12.10.20dp) identified that staff wanted *'to develop more skills in coaching for speaking to the patients'* (Document DA16, DA14).

'What matters to them [me]' focus -The ABUHB person-centred holistic care principle

comprises of a decision that 'start[s] with the person and what matters to them [me]' which also sits alongside the MECC (Making Every Contact Count) approach to behaviour change (Document DA9, DA11, DA28, DA29), holistic assessment and the act of co-producing care plans. The positive clinical outcome for the individual and family often means they are more independent and have increasing control of their care (Document DA20, DA22). The individual case study (Document DA20) demonstrates how a complex case referral from a practice nurse resulted in a positive impact for the individual, the family and the NDN service.

This case study included an individual presenting with multiple co-morbidities including unstable bipolar defective disorder, diabetes (unstable blood sugars) and leg ulcers. In this case, the NDN team visited the individual and family at home to complete a holistic assessment to understand how the individual's difficulty in administering an accurate insulin dose could be best managed. The assessment gave details about normal lifestyle including discussions about close family relationships and opportunities to contribute to the individual's care, understanding daily routines and times. In addition, it provided opportunities to observe insulin administration, food choices, cooking and meal preparation. Understanding what matters to them, as well as the clinical care required for the insulin regimen, triggered an opportunity for the team to co-produce a care plan that would work for the individual and family. This resulted in acceptable HBA1c levels for wound healing. Once the wounds had healed and the team were confident in the individual and family level of self-management, the individual was returned to the care of the practice nurse for routine diabetes care.

2. **Delivering Self-Managing Teams**

This NDN principle was addressed through the development of a compassionate leadership philosophy, redefining the caseload, a distributed role to coaching and mentoring, using a data driven approach (population assessment and local data) to identifying gaps in patient needs and in matching skill provision, using mobile technology and an e-scheduling system.

A compassionate leadership philosophy - Staff and students report a change in leadership philosophy during the NDN pilot. Described as *'excellent leaders, they've been made to*

really lead the team, take the team with them, encourage them to give it a real go' (Interview NN ABUHB 14.10.20). Leadership has manifested itself in several ways, including staff feeling supported in delivering the Care Aims philosophy and service delivery (Interview NN ABUHB 12.10.20dp), support with problem solving, shared learning with multiple grades of staff including senior nurses creating a shared vision of the philosophy to be delivered, increased autonomy, control and responsibility for the caseload, feeling empowered and valued through investing in the team and service and team working.

'[name] is very encouraging that if you need to spend an hour / an hour and a half with that patient. You spend an hour and a half if that what needs to be done in that point in time. That's what you have to do. There's no kind of, 'you've still got this to do and that to do and [name] will as well'. They're quite supportive and we've been sort of the new girls who've started, I think a lot of it is don't – even though you are on your own, you're not alone. If you need us, they've all got our numbers, if you need us. We're here. You can ring us at any time. You can come and meet up and come and support you with anything so it's just we try to really encourage them to think, even though you are on your own, you're not on your own. If there's anything you're not sure about. If there's anything you're concerned, if there's something like 'urgh, I've no idea about that'. No problem for one of us to go and support them in whatever they're doing' (Interview NN ABUHB 201016dp).

'it's that confidence inside knowing that I feel more supported' (Interview NN ABUHB 12.10.20dp).

'The strength of the leadership was described as 'leading from the front and taken us with her'.... She's been there when we have struggled or doubted, she's known we can do this. It is a benefit and it has really benefited the patients'...... If you ring a six or seven, [team leader name], and you say this is bothering me outright, okay we'll join up or I'll go the next day and I'll review it and come back to you and feedback. We are on a level, in a team, but I agree with [DN name], we do need that management that's taking you forward' (Interview NN ABUHB 201016dp).

Re-defining the caseload - The staff reported that the use of Care Aims and manager

support had helped them to redefine their caseload. This may have contributed to a reported reduction in the caseload I.e., 18 months pre NDN the average was n=564, whilst 18 months post NDN the average was n=481 (Document D29).
'So instead of just accepting everything and doing everything it is more around asking the patient what they wanted to achieve in the long run and fashioning a care plan out of that. It's about a joint contract in care. I say about caseload again but a smaller part of it is that the caseload gets smaller but it's more appropriate so it's more complex and that's exactly what has happened with us to be fair' (Interview NN 201015dp).

A distributed role to coaching and mentoring - the NDN team reported that the changes due to the pilot (Care Aims, mobile technology and e-scheduling) required sustained support, and a lot of confidence building. However, they couldn't have achieved the changes without coaching. With manager support and training for 'strength-based leadership coaching' (Document DA 29), it led to NDNs feeling empowered and confident in their change of practice which resulted in an increased confidence in decision making.

'it just seemed quite natural for the girls if they needed anything to come to us but there was a lot of work from our point of view of getting the girls to think more independently. One of the most common phrases when they come in if they had a difficult patient or a difficult situation would be, 'a blue needs to go in to sort it out'. So, there was a lot of work which was a big thanks to the Care Aims training that was down to saying 'you're a qualified nurse, so you don't need a blue to go in, you're just as capable of having this conversation as I am'. So, there has been a big change in that as well' (Interview NN 201015dp).

Using a data driven approach - Population assessment and local data were used to identify any gaps in patient needs and in matching the skill provision in the NDN pilot team their use was described as *'insightful'* and '*beneficial'* (Document DA29). The Project Board minutes and an interview by a senior manager reported that they had spent the first year of the pilot undertaking a population assessment to identify areas of need where improvements could be made and the skills the teams required to address these needs (Document DA5, DA29).

'The population needs analysis, the skills of the staff and a lot of areas just dived in and

made the change whereas we didn't' (Interview NN ABUHB 12.10.20sw).

'I think it's like I said, engagement with staff and listening to staff. It's not a top-down approach definitely but bottom up and investing in the training and looking at the needs of the population and I think they are key' (Interview NN ABUHB 12.10.20sw).

'*A training and population needs analysis was undertaken to identify areas for service improvement and development and as part of the workforce development Senior Team Leads have undertaken the following training*

- *Strengths Based Leadership coaching*
- *Care Aims Level 1 and 2*
- *Water Cooler*

It is positive to note that by adopting this approach team members are reporting that they have the skills to change the way in which they work with individual patients moving towards self-management wherever possible or by working with those most proximal to the individual to deliver care' (Document DA29).

Where they had separate specialist teams such as frailty, they linked them up to the NDN teams to make sure that the skills within the team could care for the identified need within the population. The population assessment also identified a raised incidence in relation to depression (Document DA5). Consequently, they commissioned Mental Health First Aid (MHFA) training with MIND which helped them to confidently recognise the crucial warning signs of mental ill health for example depression, anxiety disorders, substance misuse and psychosis. Mental health is now considered as part of the assessment process, so proactively engaging in early intervention and crisis prevention.

'like I said about the mental health issue and the depression in the over 65s and in particular the housebound, we would never have known if we didn't do a population needs analysis. By doing that we've instantly improved the mental health of our population. Even though we're not very good at capturing patient experience they are very good at highlighting if somebody is at home suffering from depression now' (Interview NN ABUHB 12.10.20sw).

Based on local intelligence from a new system of data reporting about catheter related clinical incidents and Root Cause Analysis meetings, one NDN pilot site identified problems with long waiting times/delays for Trial Without Catheter (TWOC) appointments in hospital urology, there were negative impacts on the patient experience and patient safety from waiting too long e.g. increased infection risk, increased demand on urology services leading to increased waiting times. This led to the development of a new partnership initiative with a change in practice adopting a multi-professional approach in collaboration with urology, district nursing and continence service (Documents DA1, DA21, DA23). The aim was to reduce waiting times for TWOC appointment from 10 weeks to 2 weeks (Documents DA1, DA23) and reduce appointments in urology clinic in secondary care whilst providing care closer to home. From this, patient experience would be enhanced and there would be a reduction in catheter associated infections. The NDN team achieved this by developing a protocol involving all key stakeholders. The main reported benefits included patients spent less time on the NDN caseload with reduced catheter associated urinary tract infections (CAUTIs), less unscheduled visits in relation to catheter associated problems and positive patient experience (there were captured in the patient stories) (Document DA1, DA22).

Mobile technology and an e-scheduling system - The NDN team reported that at first there was a mixed response to the implementation of both the mobile technology and the new e-scheduling system. Some NDN team members mistrusted the computer system to allocate appropriately, *'some girls were technophobic'* and they were implementing Malinko whilst also coping with a busy caseload. They reported that they had to reorganise the way they worked in teams to accommodate the system. Implementing the new e-scheduling system requires a planning phase where staff of all grades in the team are included in developing the bespoke algorithms. Staff report that if the service spends time planning the introduction of Malinko e-scheduling co-productively as a whole team (including admin staff) to create the specification required, then this will lead to increased usability, and less frustration and problems on implementation. On reflection, NDN staff report that now its embedding within the service they like it (Interview NN ABUHB 12.10.20dp) because the information they carry now is always secure, they can see it in real time, and they feel safe because of the safeguarding component of the system (Interview NN ABUHB 201015dp). They also report a reduction in missed visits, and a reduction in non-clinical contact time

which they perceive as safer for patients and efficient for staff.

‘*When you get like an unscheduled. Something like a catheter’s blocked, before you’d have everything over the phone, the information you’d be jotting it down. Where now it can just come straight through on your iPad. You know where you’re going. You’ve got all the information. In terms of juggling things around or if, I don’t know, say Holly’s stuck somewhere, and she sends out like a little SOS, I’m going to be late. Those calls instead of coming back in the afternoon, finding that she might have two or three left over, can then be allocated so it doesn’t feel like when [Name] looks through her iPad then, she’s still got everything to do. We can all help and take off and this small incident instead of paper based’* (Interview NN ABUHB 201016dp).

There were some concerns about NDN staff of varying ages not being *‘IT savvy’* (Documents DA14). However, Malinko training hadn’t met expectations because they didn’t have the iPads at the time even though an implementation plan was written after NDN staff had been asked what they feared about the IT system (Interview, NN ABUHB 20.10.12dp). NDN staff concerns about the Malinko system and the introduction of mobile technology included *‘fear of breaking it’,* losing information, learning how to navigate around it, managing the new e-scheduling system with GP system and WCCIS (Document DA14), concerns about program interdependencies with other IT systems and perceived incompatibility with WCCIS (Documents DA13, DA1; Interview NN ABUHB 14.10.20sw). Staff reported that mobile working had been greatly enhanced with the introduction of iPads which they felt had resulted in a reduction in travel time (Document DA1 p23) and described the additional apps on the iPad as *‘brilliant’* (Interview, NN ABUHB 20.10.12dp).

3. **Delivering Continuity**

This third NDN principle was achieved through developing a range of new skills, advanced care decision plans (ACP), working together with other health professionals and community network knowledge (Document DA28, D29).

Developing a range of new skills - Several new skills were developed including training to use newly purchased bladder scanners (with support from the specialist nurse) and

identifying patients suitable for intermittent self-catheterisation. This reduced the need for long term catheterisation, supported the implementation of the NEWS/Sepsis bundle with support of 1000 lives, and wound care champions reducing the need for referral to tissue viability services (Document D29). The staff reported that the changes to the new NDN model bridged the gap between hospital and home and led to them developing more skills such as giving IV antibiotics which was *'good for staff morale'* (Interview NN ABUHB 12.10.20dp) and reducing workflow stress on the CRT (Community Resource Team) (Document DA29). Patients appear to have benefitted from this new service delivered at home instead of in hospital.

'*We go in there for six, seven weeks, eight weeks we have gone in there for. So that's a long time for somebody who's normally quite young to have to stay in hospital. We've literally just left a patient now, who's finished the IV antibiotics and I've just been up there to do bloods and he was like 'you don't realise how much you girls have changed my life, that I was able to come home and you girls were able to come in, do my IV. You know support me and my family'. Otherwise, during this COVID situation he would have been stuck in the hospital. He's a young gent. A different way of looking at it really*' (NN ABUHB 201016dp).

'IV Administrative Training- bespoke training package to achieve competencies. Ongoing collaborative working with CRT to allow constant flow of patients out of acute who require IV antibiotics. Situation prior to DNs administering IVs, CRT would be overwhelmed with patients requiring treatment resulting in a backlog of patients blocking acute beds as they couldn't facilitate their discharge home. [Name of team] constantly have two/three requiring IVs on their caseloads' (Document DA29).

Advanced care decision plans (ACP) - All staff had received training in ACP, and verification of death by end of year 1, and relative forums with care homes were initiated for inclusive and sensitive discussions with individuals and their families (Document DA5, DA28). Adopting a proactive approach to end-of-life care within local EMI residential homes resulted in NDNs being fully aware of all residents' wishes, whilst protecting their right to die with dignity. Family responses to the ACP initiative included:

- *'Grateful that someone cares about what happens to mum and (felt) supported before we even needed it'* (Document DA28).
- *'Feels right to think there are plans for what dad wants*' (Document DA28).
- *'Didn't realise that a conversation I had with mum some time ago could help us plan what her wishes were'* (Document DA28).

ACP compliance was reported as increased from approx. 10% to 70% over a 4-month period. By the 1st September 2020 n=93 ACPs were reported with 50% of new Continuing Health Care (CHC) patients having and ACP (Document DA29). The approach was shortlisted for a QNI award in 2019 (Document DA1; DA16; DA28).

Working together with other health professionals and enhancing community network knowledge – There was a commitment to working with other health professionals, other NDN pilot sites and enhancing relationships with other stakeholders such as community connectors in the context of social loneliness (Document DA15, DA22) and compassionate communities' involvement in the virtual ward (Interview NN ABUHB 14.10.20sw). The relationship with other community organisations was reported as not having changed but *'that greater overview has been helpful'* (Interview NN ABUHB 14.10.20sw). Although links into First Contact with Social Services were documented to have improved patient experience and collaborative working through establishing relationships with social services colleagues (Document DA29).

There was also a commitment that, *'the team will develop new working mechanisms to strengthen the access to appropriate social care support to better meet the holistic needs of patients based on prudent healthcare principles'* (Document DA9).

Sharing training across the pilot sites was also highlighted (Document DA1), for example CTMUHB staff sharing their NDN pilot induction programme with ABUHB staff was reported to save time (Document DA14).
'The relationships formed with other nominated Health Boards have proved particularly beneficial, especially in relation to the collaborative approach to training that was adopted and the continual sharing of practices' (Document DA29).

The District Nursing Staffing Principles

This section provides evidence in response to some or part of the District Nursing Staffing principles. Comments were particularly made in response to professional judgement, the geographical neighbourhood, leadership,

Principle 1. Professional nursing judgement should be used in determining district nursing team's establishments.

The 'solutions-based conversations' attributed to Care Aims training and 'what matters to me' conversations with patients, their families and stakeholders were reported to have delivered a cultural change resulting in a reduction in caseload as patients spend less time on the caseload and are discharged from the caseload when there is no longer a duty of care, as described earlier in this report (Document DA1, DA4, DA5, DA22, DA28, DA29). This in combination with a training needs analysis (Document DA15, DA29) and data driven care (population assessment and local service data) contributes towards using professional nursing judgment in determining the NDN establishment (Interview NN ABUHB 12.10.20sw; Documents DA15, DA29). Managing expectations of individuals, their families and staff becomes immediately important in this cultural change (Document DA4, DA27).

'I think it's like I said, engagement with staff and listening to staff. It's not a top-down approach definitely but bottom up and investing in the training and looking at the needs of the population and I think they are key' (Interview NN ABUHB 12.10.20sw).

Principle 2. District nursing teams should be structured so they are coterminous with the cluster catchment / footprint. Each district nursing team or unit should have a distinct and identifiable geographical neighbourhood, zone or district within the cluster.

The NDN pilot reported being coterminous with the Newport East cluster and identified geographical population (Document DA9). The audit patient experience scored a range of 85.7% and 95.4% generally (p10), patient experience is lower in higher populations per whole time equivalent (WTE) teams. Low compliance was attributed to not responding to questions such as, 'did the district nurse provide any advice and guidance on equipment to support your independence?' and 'did the district nurse provide advice

on home safety?' (Document DA6).

Principle 3. The skill mix within district nurse led teams should be predominantly nurse registrant supported by health care support workers dependent on the patients' care needs.

The intention in ABUHB was to contribute to the quadruple aims including improvements in the capability and wellbeing of the workforce. Skill mix was reported as including an appropriate level of support provided by healthcare support workers (Document DA9). A few tools were employed to inform a review of the skill mix, such as the data capture for a time and motion study was completed during the NDN pilot in January 2019 (Document DA14, DA13), staff matrix (Document DA14). Following which there was agreement (24th May 2019) that there was insufficient capacity for the Band 7 to be supernumerary to undertake development work (Document DA14, DA6). However, staff in the teams reported an increase in morale as a result of re-gaining skills.

'And I think it's [staff] morale I think to gain these skills. There's people like myself who used to be able to do IV antibiotics and because of the culture of district nursing in [name] and you know, I've become deskilled so you know, it's nice to get those back and for the people who couldn't do it before they've got it, so it is good for staff morale as well I think' (Interview, NN ABUHB 20.10.12dp).

Principle 4: Each district nursing team or unit should have a clinical lead District Nurse with a NMC recordable qualification (SPQ) or a post registration community nursing degree and leadership training. At least 20% of their time should be spent on case management and at least 20% of their time undertaking supervisory activities, aiming towards a full-time supernumerary role as the needs of the team or unit dictate.

The role of the motivated team leader is key in promoting the NDN model and its philosophy (Interview NN ABUHB 12.10.20sw). Records audits completed by team leaders across all district nursing sites varied between 58.3%-95.8%. The highest score was achieved by NDN teams. This was thought to be as a result of the investment in the leadership in the NDN team (Document DA6). As mentioned earlier in this report, we noticed throughout the interviews that we conducted that there were elements of compassionate leadership

developing and especially with regards to enabling staff empowerment. As deputy team leaders have moved onto team leader roles elsewhere, they are naturally changing the culture of non-NDN pilot teams in ABUHB. In this sense, the NDN teams act as incubators for development and change.

'I've known some of my team members have gone into other teams and highlight problems to the team leader but then the team leader doesn't take on board what they're saying, it then falls by the wayside, my previous deputy, she's gone to a new team. She has become a team leader so all this information and the knowledge that she's gained from here, she has taken on into her new team. I was talking to her, it's not official she's neighbourhood nursing but she's making sure that she keeps that concept and the aims of that idea going for her team because she can see the benefit, but she doesn't want to have all these patients on her caseload that are not necessarily, you know. So that's one of the benefits of it and as you rightly said, we have, when the nurses do go in other teams they do and try and put that information in practice but again, as I said it is down to the team leader' (Interview, NN ABUHB 20.10.12dp).

Principle 5. There should be at least one deputy team leader District Nurse with a recordable qualification (SPQ) or a post registration community nursing degree and leadership training case manager within each district nursing team.

ABUHB invested in two Band 6 roles to help create the context within which the new culture and philosophy of care could change. The rationale was that patients were becoming more complex; it provided a progression route for registrants and they undertook the role of the coach/mentor.

'Because we aligned them to the District Nursing Principles, we invested in two Band 6s so instead of having one Band 6 they had two Band 6s. They were the clinical leads for the teams which meant that the Band 7 could adopt a more supernumerary role in line with the principles. Also, because they were having different conversations with patients and their caseloads were reducing it was ever changing really so they had time to invest in staff and mentor staff. It was just as different approach to what they were used to and running around like headless chickens before' (Interview NN ABUHB 20.10.12dp).

'I just think it's really registered nurse time because patients are becoming more complex. Not only that, its staff development isn't it? You've got your 5s who inspire to be 6s and your 6s are inspired to be 7s, so I think it worked for staff progression as well (Interview NN ABUHB 20.10.12dp).

Principle 6: To promote the continuity of an individual's care and to develop expertise about assets within a community, each district nursing team or unit within a cluster should have a staffing complement of no greater than 15 staff / 12 WTE.

See above section on 'Working together with other health professionals and enhancing community network knowledge'.

Principle 7: 26.9% uplift should be used in calculating the headroom within a team.

The All-Wales DN Quality Audit (AWDNQA) (Document DA6) reported that ABUHB was compliant with the principles with exception of the Band 7 supernumerary status and the 26.9% uplift. In the all-staff anonymous survey, the question 'has there been enough staff on duty to complete all required work?' reported low compliance (Document DA6). The audit highlighted issues with regards to the fair allocation of workload. One of NDN teams scored below ABUHB average in the staffing survey. There were resource implications within the team which may have affected compliance (Document DA6). Staff shortages due to maternity leave led to new staff and leadership on the NDN team (Interview NN ABUHB 20.10.12dp).

Principle 8. Each team should have access to at least 15 hours administration support per week.

The NDN teams were used to having part-time admin support (Document DA9). The South East area had 0.54wte support over 4 days compared with the Central East area which had 0.8wte admin over 5 days. The admin provision in the Central East area met the NDN team's needs and they commented that the extra hours would have been useful in the South East area (Document DA1). Described as 'very good', the admin role is key to taking phone calls in the morning when the NDN staff are out visiting patients and managing the Malinko

system. When the system was implemented, the admin post for the NDN team vacant and NDN team members experienced the burden of having to input all the information as well as manage the caseload and its attendant calls.

Malinko set up a standard set of service management reports that can be run by the service team leads and admin team on a regular basis (Document DA3). Admin staff also completed care navigator training to signpost referrals to an appropriate person (Document DA1). ‘We could allocate all the calls and we could allocate all the calls. When [Malinko] come in for this team we didn’t have the admin, so it was now down to myself and the staff to be able to input all our patients onto [Malinko] and then we also had to have the training. […] Yeah, we’ve always had an admin part time, but our admin is 20 hours, nine until one which nine until one is assumed that you get the majority of the calls in the morning and we are out doing the calls, so she’s got the time to be able to upload the information’ (Interview, NN ABUHB 20.10.12dp).

‘She’s very very good. We wouldn’t be able to run the office without her. She was already our admin before the pilot though. We were lucky enough to have one’ (Interview NN ABUHB 201015dp).

- **Key aspects to developing and implementing a high-quality neighbourhood nursing service**
  When asked about key aspects to developing and implementing a high quality NDN staff they talked about having the *‘confidence in yourself, confidence in your judgement’*, allowing nurses to *‘grow in confidence and develop as leaders’*, planning, clinical governance, having a good leader and *‘an open mind'*, not to be fearful of change, include everyone in the team right from the beginning and give them greater control over the design from the beginning, and not being co-located with GPs gives greater freedom and control over the workflow (Interview NN ABUHB 201016dp; Interview NN ABUHB 14.10.20sw**;** Interview NN ABUHB 201015dp).
  ‘Try and plan and get the staff skilled up as early as you can. If they ask you to do [Malinko] then start that earlier rather than later and allocate, try and get some IT support and when you’re inputting the information because it will hopefully prevent problems in the future’

(Interview, NN ABUHB 20.10.12dp).

'Make sure that you have the policies and procedures in place because that is one of the areas that kept us back in that we didn't have those sorts of things to be able to document or to be able to say, 'This is what we're doing, this is what we're achieving,' to be able to carry them forward because if we don't have those in and something happens, we're not covered, and you know, in this day of litigation or ensuring that we have that clinical governance around everything, we need to make sure yes our manager will say 'oh yes that's okay', but you do need to see that documentation' (Interview, NN ABUHB 20.10.12dp).

Case study 2 Cwm Taf Morgannwg University Health Board (CTMUHB)

NDN in CTMUHB, 'adopts a person-centred, coordinated and prevention-focused nursing service to the local community. The teams involved took a public health approach, caring for a designated population, aligned within a Cluster, promoting independence, safety, quality and experience with the ethos of home being the best and first place of care' (Document DC1). The focus and principles of the model are:

1**. End of life care:** For the NDN Teams to provide total care for this patient group. This will ensure a continuity of high-quality care to the individual and family from a small group of staff.

2**. Virtual ward:** To significantly enhance the inclusion of NDN staff within the Virtual Ward Team. Strengthening NDN involvement in the aims of the Virtual Ward will be particularly supportive in terms of admission avoidance through enhanced nursing support at home.

3. **Long term conditions:** To work more intelligently and intensely with GP and practice nurse colleagues in the identification and pre-emptive support for those peoples with known long-term conditions e.g. COPD. They aimed to target those individuals who have an identified history of frequent hospital admission.

4. **Information technology:** To invest some of the allocated pilot funding to procure software that provides automated clinical scheduling of individual visits (Malinko). This

model has potential to save senior nurse time and resources. Further investment in either smart phones or tablets for the NDN team to test the benefits of current ICT including clinical apps to support the efficient delivery of nursing care (Document DC1).

The expected benefits of the CTMUHB NDN model were (Document DC1):

Full integration - to learn lessons from the Buurtzorg model and integrate them into CTMUHB NDN practice.

IT systems - having good quality IT hardware and software and access to relevant clinical information in a timely way would help reduce waste of administrative resource and support the background processing of health outcomes and data to make nursing time available for direct patient contact.

Empowerment model - help people to self-manage their health and care needs, improve population health, precipitate a shift from a reactive model of practice a proactive model.

Increased staff satisfaction - influence NDN pilot team recruitment and retention rates, and lower staff absence rates.

Client satisfaction - contribute to a reduction in individual and family complaints about community nursing services.

Cost efficiencies - contribute to the safe reduction of overhead costs whilst improving efficiency.

The geographical area of operation for the NDN pilot in CTMUHB is coterminous with the Hirwaun and Park District Nursing (DN) team and the St Johns DN team in the Cynon locality. Table E2 summarises the context mechanism and outcome configurations which resulted after analysing the CTMUHB data using the realist approach.

Table E2: Summary of the CTMUHB CMO configurations

Summary of CMO - End-of-Life care
• Early engagement and communication with stakeholders (patients, carers and other agency staff) will help to understand their expectations and communication needs when planning a new service change.
Summary of CMO - Virtual ward
• Working with the virtual ward has strengthened multi-disciplinary and inter-agency relationships through increased face-to-face contact, resulting in easier and more efficient referral pathways. • Weekly face-to-face conversations in the virtual ward provides formal accountable space for enhanced problem-solving opportunities and co-ordinated solutions.
Summary of CMO - Working summary of long-term conditions
• If a planned innovation hasn't worked as expected, then whole-team reflection can give an insight into where alternative decisions may have suited the needs of the service better.
Summary of CMO - Information technology
• Using Malinko triggered less abortive visits, less room for errors and less duplication of visits resulting in an increase in staff satisfaction. • Implementing Malinko triggered a need to purchase ICT hardware and support for its use. This resulted in 'happy' staff and additional benefits including remote access to email, UHB intranet and other app-based resources. • Using Malinko software required a high degree of information monitoring and management. This led to the Band 3 role being included in the monitoring, and perceived governance benefits (Document DC1, DC3). • Using Malinko reduced senior nurse time spent on case managing and scheduling allowing them to focus on patient care, complex cases and clinical supervision. • Planning to implement Malinko and IT hardware triggered NDN staff anxiety and fear of the new system. A plan to prepare NDN staff through engagement, IT champions and training resulted in NDN staff adapting to the new change and remarking on the positive benefits of the system.

Summary of CMO - District Nursing staffing principles
• Care Aims training empowers staff to have alternative conversations with patients and families which then proactively empowers patients to self-manage their own conditions by talking through problems and negotiating long term solutions. • If there are everyday stressful pressures from workload and capacity issues, then this may trigger staff to 'do the care' rather than promote patient independence. • A combination of Care Aims, smaller teams and virtual ward triggers better relationships and 'rapport' with patients, resulting in more informed discussions about patient care with MDT colleagues. • In a situation where the district nursing workforce was acknowledges as stressed and stretched, it triggered a discussion about the sustainable support that was needed. As a result, the band 4 role was developed releasing time for band 5 registrants to undertake more complex care and reduce staff stress. • In a situation of organisational change where the workforce is fearful and need motivation, it triggered the need for a broad range of specialist support and resulted in a distributed coaching model through champion roles and external training. • The admin post created through the NDN pilot created a supportive infrastructure for the team which included office/team tasks, Malinko support and the navigator role. This resulted in staff feeling that they had extra time to coach, review and support on another.

Delivering End-of-Life care

In this aspect of the NDN model the team planned to provide total care for this patient group rather than commission social care colleagues to deliver 'hands on' care in addition to the NDN team going into the home. The purpose was to ensure a continuity of high-quality care and carer to the individual and family from a small group of staff.

'...we all discussed which areas were top priority and obviously palliative care was another element of things. We do nurse a lot of patients with end-of-life or palliative care so we just wanted to try and create something which would provide continuity and improve the way that we practice' (Interview 10.10.12 CTMUHBsw)

It was described as a big change and sometimes it, *'didn't always work as well'.* The team encountered problems delivering this aspect of the service (Interview NN CTMUHB 20.10.14sw). By end of year 1 (2018/19) the staff had received training in advanced care planning (ACP) and the end-of-life care pilot had been tested with 8 individuals/families from diagnosis through the end-of-life care pathway and post-bereavement support (Document DC3). However, at interview in November 2020, it was reported that it was difficult to cope with the volume of work.

'As soon as it's a palliative from hospital or whatever we just take over the full care and sometimes, I'd say, but I can feel this for the team, that they are pushed to the limit because there's so many of them palliative coming in now and there's not many staff to cover it. […]. …we've all just got to pull together and just get on with it. Heads down and just get on with it, but it can be quite stressful' (Interview 201013SC CTMUHB).

Managing patient and family expectations was difficult at times, due to a lack of understanding from patients and families about the role of the NDN in the service.

'...*some of the families had unrealistic expectations of what we could provide. One of the challenges we faced was when the relatives just wanted a nurse to go in in the evening time just to close the patient's curtains and make them a cup of coffee so there were some unrealistic expectations of what they wanted us to do and provide. This was a challenge and we tried to explain that when a nurse is come in, they will need to be doing something to do with nursing*' (Interview 10.10.12 CTMUHBsw).

'...whilst we engaged with the patient upfront and we said, 'We will deliver all the care that you require', some of the expectations of the service were a bit too high for what we were able to provide. I think if we were to have our time again, we would invest more time in engaging with patients around what the district nurses can provide and perhaps introduce examples of what we can provide' (Interview NN CTMUHB 20.10.06sw)

'*I think, for them to understand, and I don't know whether maybe an information leaflet that we could have given them beforehand to explain it would have helped. It was just something that didn't really work' (*Interview NN CTMUHB 20.10.14sw).

Communication issues were also identified with stakeholders who were not aware of the NDN pilot and the change in service delivery.

'Our communication strategy could have been a bit better, because they were often times where patients, or social workers then, would not be aware of the pilot and would still commission a care package for patients who we wanted to deliver the full care for and would have met the criteria under the pilot' (Interview NN CTMUHB 20.10.06sw).

Despite these challenges, the palliative care element enabled the NDN team to deliver a continuity of care for patient and carer which was a positive feature of the feedback that had been received from families.

'We had a patient who has passed away now but the family and the patient really liked the element of the continuity of the district nurses being in maybe three or four times a day with this lady. They really liked that it was the continuity of the same nurses going in there and we obviously built a very good relationship with the family and the patient, so they really liked that element of things' (Interview 10.10.12 CTMUHBsw).

Delivering Virtual Ward

The purpose here was to significantly enhance the inclusion and contribution of NDN staff in the Virtual Ward Team activity (Document DC3). It was anticipated that strengthening NDN involvement would support the aims of the Virtual Ward, in particular, to avoid admitting patients into hospital through enhanced nursing support at home (Document DC1). The Virtual Ward is described by NDN staff as a community multidisciplinary team model that aims to provide, *'better co-ordinated community care for our patients to try and maintain their stay at home and try and prevent any unnecessary hospital admissions'* (Interview NN CTMUHB 20.10.06sw). '*So anybody can refer if they feel that a patient is vulnerable and at risk of hospital admissions*' (Interview 10.10.12 CTMUHBsw).

There are weekly meetings, '*where the team leaders from each team go down to the surgery and have a meeting with the GPs, occupational therapists, physiotherapists, community co-ordinators and social workers*' (Interview 10.10.12 CTMUHBsw). It also included the third sector representation from the community connectors. The meeting discussed '*patients that were generally possibly at risk of going into hospital, and we were trying to do our best to keep them at home*' (Interview NN CTMUHB 20.10.14sw).

Staff reported several benefits to participating in the virtual ward, these included:
The management and governance of the virtual ward is an important feature that ensures each professional is aware of their responsibilities and actions for each patient that is discussed, with the expectation that feedback is provided at each meeting.
'Each week somebody who acts as a scriber will write down all the actions from each meeting and on each of the patients discussed, it will say what happened the week before and who is to carry out the actions. Say for instance, one of the patients was referred, they will say if the patient will need blood tests in the next two weeks, so they put next to that 'District Nurse is to feedback on next meeting'. Or if the OT has said, 'I'll go out', it will say then on the document, 'The OTs are to feedback into the next meeting'. So, it's easily identified who is to do what and what we are supposed to be feeding back by the next meeting and I think it's quite robust' (Interview 10.10.12 CTMUHBsw).

Strengthened relationships with the wider MDT. Particular mention was given to the third sector community connectors, the role of the community navigator within the NDN pilot and the role of the community cluster model in strengthening relationships across health and social care services and community groups (Document DC3, D9).
'..we've got very good links now with a community cluster model, which allows us to have many more informal conversations with colleagues around patient care' (Interview NN CTMUHB 20.10.06sw).
'...we had more engagement with third sector and other multi-disciplinary teams' (Interview NN CTMUHB 20.10.14sw).

'The community coordinators are our link there, so they form part of the virtual ward, along with local authority colleagues as well' (Interview NN CTMUHB 20.10.06sw).
'I learnt so many things that were available to patients on their doorsteps, basically, that I wasn't aware of before, so many groups that could help these patients' (Interview NN CTMUHB 20.10.14sw).

'The third sector had a big involvement within the virtual ward. We often referred patients to the third sector, and the referral process, I would either do it whilst I was in

the virtual ward or contact them after if it was a patient that I'd seen and it wasn't on the day that the virtual ward was taking place, so I could refer them in that way. But yes, they had referrals from district nursing, OTs' (Interview NN CTMUHB 20.10.14sw).

'Whilst the team leaders go to the virtual ward and they have those links with the community coordinators, the rest of the DN team don't have that much actually unfortunately, so that's why we wanted the navigators to be that link, to link in with the rest of the team' (Interview NN CTMUHB 20.10.06sw).

The virtual ward also gave an opportunity for third sector colleagues to gain a better understanding of the NDN pilot and how it worked.
'*I sat on that group once a week, all professionals reviewing patient cases. My role was to see where the third sector could help support people and avoid a crisis. So, in that role I sat with different district nurses'* (Interview NN CTMUHB 20.10.28cw).

'[name], I worked with [NDN], [NDN] would say this is part of the neighbourhood nursing and so I was aware it was going on. I think I talked to [name] then when I was in virtual ward about what that meant. I sort of had a picture in my head I think about what neighbourhood nursing would look like. I would get referrals from district nurses as well then' (Interview NN CTMUHB 20.10.28cw).

Easier and more efficient referral pathways and speedier treatment meant that NDN staff also had better access and knowledge of the referral processes.
'*traditionally if we were struggling with a patient in the community, and we were thinking, this person is at risk of admission to hospital, it would really be a scramble, trying to get as much support as you can from as many places as you can, whereas now you can take it to the virtual ward process and it's a one stop shop, where you can have good collaborative discussions about what each service can offer to try and prevent that crisis from happening*' (Interview NN CTMUHB 20.10.06sw).
'The team are happy for us to just send an email if we've got any concerns for a patient, or they are happy for us to contact them and just give them a ring really. It's really simple' (Interview 10.10.12 CTMUHBsw).

*'...whereas before, and they wouldn't have had as much input, it would have been more myself, really' (*Interview NN CTMUHB 20.10.14sw).

Virtual ward – a space to deliver holistic patient care and enhance problem solving opportunities. The face-to-face format allows issues to be discussed as a team and provides a, *'far better experience..... and the referral pathways can be a bit impersonal, so it can be quite difficult'* (Interview NN CTMUHB 20.10.06sw).

'You can have conversations about what the real issues are for that patient and to try and brainstorm and come up with a coordinated solution for that patient and try to make their life better' Interview (NN CTMUHB 20.10.06sw).

'...we were all there in the same room discussing, and then we would meet the following week then to hand over what had gone on with that patient' (Interview NN CTMUHB 20.10.14sw).

The virtual ward was also a helpful, *'way of knowing exactly who was involved with that patient's care*.... *Before the virtual ward, it could be that I'd gone to visit a patient, maybe the patient wasn't able to tell me that a social worker had already been there, possibly the day before or on that day, so the communication aspect was so much better'* (Interview NN CTMUHB 20.10.14sw).

Although this report hasn't provided any examples of avoiding patient admission to hospital, NDN staff report that the virtual ward provides the formal accountable space to strengthen relationships, improve referral pathways, and provide opportunities to enhance problem solving. It is an element of the model that continues to build momentum, with more GPs and standard district nursing teams from the wider locality joining.
'…at the beginning, it was just myself and the other neighbouring team that attended, but by March this year other GP practices had come on board, and there was also other

district nursing teams within the locality that also joined, I think because of the success of the virtual ward' (Interview NN CTMUHB 20.10.14sw).

Delivering Long term conditions

This aspect of the model was developed with the purpose of working more intelligently and intensely with GP and practice nurse colleagues to identify and pre-emptively support people living with known COPD, particularly those with a history of frequent hospital admission.

'...we wanted a district nurse with extra skills in COPD to try and keep people at home instead of them being admitted all the time' (Interview NN CTMUHB 20.10.27cw).

Staff in CTMUHB highlighted their involvement in the set-up of the NDN pilot and in particular, the focus on COPD, '...*there is a lot of history with ex-miners and things where people have COPD and chronic chest conditions. This was an area which we all highlighted that district nurses weren't really up and running with training with regards to COPD management'* (Interview 10.10.12 CTMUHBsw).

Consequently, two COPD champions were identified, and they required training which was described as *'in-depth'* (Interview NN CTMUHB 20.10.06sw) *'really robust training package'* (Interview 10.10.12 CTMUHBsw). The training had to be managed alongside general workloads (Document DC5). Many of the staff reflected that these roles had not worked as they had intended (Interview 201013DLC CTMUHB). This was attributed to the COVID-19 pandemic by one of the champions who described it as an *'intense'* in-depth training programme that *'took forever'*. This was further exacerbated when the nurse who had been trained to be a COPD champion left the NDN team.

'We did train this nurse to such a high standard and she left so it was almost like we invested all that and actually we invested it in one person. Maybe we should have invested it in the whole team' (Interview NN CTMUHB 20.10.27cw).

'*It was very in-depth, so I think juggling that on top of her own goal as well, it was quite a lot. Really great for her, because she learnt so much, but I think the physical amount of it was more than we ever anticipated*' (Interview NN CTMUHB 20.10.14sw).

'They became extremely, extremely skilled, but maybe too skilled for a district nurse, if you know what I mean? They were getting a level of education that was way beyond what we would be able to provide in the community. What we really needed was something a little bit less intense for me to have more staff trained' (Interview NN CTMUHB 20.10.27cw).

'*Maybe in the future we would look at a different type of training package in relation to chronic disease management*' (Interview 10.10.12 CTMUHBsw).

However, patient benefits of the COPD service were recognised.
'As district nurses, we didn't really have that much to do with COPD patients prior to this, it would be a case of contacting the GP. I suppose housebound patients, they weren't having the benefits as ambulant patients were, because we couldn't do spirometry and things like that at home, just because we were never skilled in it. So, it would be a case of us always contacting the GP if there were any COPD issues. But having somebody in the team with that knowledge, that was great that they could then help that patient' (Interview NN CTMUHB 20.10.14sw).

In order to achieve their original aims the NDN pilot is planning to review their COPD work and revise the training programme to meet their service needs (Interview NN CTMUHB 20.10.06sw).

Delivering Information technology

An aim of the CTMUHB NDN pilot model was to deliver an *'efficient and effective'* nursing service (Document DC3). The existing IT systems that were used for staff scheduling was described as, *'quite labour intensive and difficult to work with...'* and *'riddled with risks'* for example patients missing visits or having duplicate visits (Interview NN CTMUHB 20.10.06sw). In addition, senior staff were spending, *'up to four hours a day scheduling'*, and the data they were producing *'was very inaccurate'* (Interview NN CTMUHB 20.10.06sw; Interview NN CTMUHB 20.10.14sw). Procuring, developing and operationalising an e-scheduling system (Malinko) has helped to

address this aspect (Interview NN CTMUHB 20.10.06sw; Interview 10.10.12 CTMUHBsw). The purpose was to test the perceived benefits of the automated electronic patient scheduling system in combination with the Ad Astra system that received the referrals from other professionals and agencies (Interview 201013DLC CTMUHB).

The Malinko software became operational from November 2018. It quickly became established as part of the NDN team's daily business (Document DC3). The reported benefits such as a reduction in senior nurses' time spent case managing and scheduling (Interview 10.10.12 CTMUHBsw) enabled them *'to focus on delivering patient care'* (Interview CTMUHB), *'focus on more complex visits'* and clinical supervision which they weren't able to do before (Interview NN CTMUHB 20.10.14sw). Generally, the staff provided positive feedback because it gave them better risk management (e.g., patient visits) and accurate data in real time (Interview NN CTMUHB 20.10.06sw) which they said gave them a *'truer'* picture of the caseloads (Interview NN CTMUHB 20.10.27cw), reduction in phone calls, evidence on demand and capacity (Interview NN CTMUHB 20.10.14sw) and stopped return visits to base to allocate the list (Interview 201013DLC CTMUHB).
'Now we can allocate our visits at the click of a button and it saves so much time' (Interview 10.10.12 CTMUHBsw).

'...what the software has done is stopped me having to go back to the base to allocate the list. It generates a list as well. It's given me an hour, hour and a half extra in the day' (Interview 201013DLC CTMUHB).

'I appreciate that senior managers I'm sure have calls daily saying 'we're short-staffed, we're busy', but we never had any evidence to prove that. But with Malinko when the visits were being scheduled, obviously there's an aspect of it where if staff members lists were full for that day, then the visit would sit in the unallocated section. As a clinician, then obviously I could allocate those visits, but it was just evidence to say this is how busy we are, and I think the system physically can't allocate these visits. It was just evidence that we didn't have before' (Interview NN CTMUHB 20.10.14sw).

However, some staff struggled with the introduction of the IT (moving from *'just pen and paper'*) describing it as *'daunting'* (Interview NN CTMUHB 20.10.14sw), *'scary'* (Interview 10.10.12 CTMUHBsw), *'quite complex'* (Interview 201013DLC CTMUHB). They feared a loss of control over their workload. Previously, they decided how they would see the patients on their list to having a computer system telling them which patients they should see (Interview NN CTMUHB 20.10.06sw). Other challenges included problems with the IT infrastructure being dependent on the areas within CTMUHB and the buildings, some were old, and the IT infrastructure described as *'atrocious'.* This led to frustrations amongst staff and impacted on staff acceptance of Malinko, often mistaking the IT infrastructure problems for problems with the software (Interview NN CTMUHB 20.10.27cw). Some staff found it particularly hard to learn the new system during COVID-19, but it was appreciated that everyone was trying their best and problems were starting to ease (Interview NN CTMUHB 20.10.27cw). As they have become used to using the system, they have identified a need for further training to support staff make full use of the data that is being captured and to understand performance reports (Interview NN CTMUHB 20.10.27cw).

This cultural change also included the introduction of iPads. These were described as more efficient *'being able to access patients records at the click of a button […] Plus the patients really like the fact that we can get those records up quickly, it provides a more efficient service overall'* (Interview 20.10.12 CTMUHBsw). To enable this cultural change, the NDN pilot aims emphasised the importance of preparing staff and engaging them in the change. *'We focussed quite heavily on engagement with staff, and we were realistic with them by saying, this is what to expect'* (Interview NN CTMUHB 20.10.06sw). They focussed attention on, *'pulling that local intelligence out of nurses and trying to put that into the Malinko system to try and tailor the visits to what the patients need and what the nurses need as well'* (Interview NN CTMUHB 20.10.06sw). They identified two IT champions, described as *'really good',* who supported the team throughout the whole process so that could become, *'a lot more confident with the use of the IT'* (Interview 10.10.12 CTMUHBsw). In addition to the training and the e-scheduling system launch support delivered by Malinko staff

(Document DC6), administrative support was an enabling feature to help achieve the benefits of Malinko.

'It [scheduling] was being done by an administrator, rather than myself, because it's more an administrative task, then myself as a clinician doing a final check over it to ensure that I was happy with all the allocation. […]. …which meant that took some of the workload off me so I could do things like go and see my complex patient, do clinical supervision, carry out my PDRs' (Interview NN CTMUHB 20.10.14sw).

Consequently, staff adapted to the change and the new IT system became embedded, despite initial concerns about the loss of control to the e-scheduling system.

'We could never even think about going back to the way things were done before. This is the new way of working now and it seems to be our norm. […]. There are less duplicate visits being made. There are less abortive visits. There is less room for error with this new system and I could never imagine going back to how we were doing things before' (Interview 10.10.12 CTMUHBsw).

'...the Malinko scheduling system, that completely changed my working life, to be honest' (Interview NN CTMUHB 20.10.14sw).

'once you get used to it, it's like second nature' (Interview NN CTMUHB 20.10.13dp).

Patients also benefitted from the Malinko software allowing them to have more information about their next DN visit.

'When we were at the patient's house, we had information to hand that we didn't have before. For example, patients, they often asked us, 'Nurse, when would you be calling next?' I can understand it's important for them to have that information, and sometimes off the top of my head when I was out and about, I didn't know when I would be calling next. But with the IT system that we then had, Malinko, it would give me their next three upcoming visits to hand, so that was just something that benefitted them, I think in knowing when the nurse was calling. I could give them an exact date. […]. Beforehand, I didn't have that information. I had an idea, but as things change, I had so much else information going around it may not have been exact. I might have said, 'Oh, I'll have to find out', and then give them a ring later. But then I had that information to hand' (Interview NN CTMUHB 20.10.14sw).

The District Nursing Staffing Principles

This section provides evidence in response to some or part of the District Nursing Staffing principles. Comments were particularly made in response to professional judgment, team size (geographical neighbourhood), skill mix (Band 4) and administration experiences. Challenges are identified with sustaining changes in the Care Aims conversation.

Principle 1. Professional nursing judgement should be used in determining district nursing team establishments.

Professional nursing judgement in some staff had been influenced by the Care Aims training, but four interviewees didn't know about this approach and hadn't received the training (Interview NN CTMUHB 20.10.27cw; Interview 201013CTMUHBdp). For those NDN staff who had experienced the training, it enabled them to have an alternative conversation with patients and move away from traditional *'paternalistic care'* (Document DC8). Care Aims training supported staff to *'question why they were doing some of what they were doing'* and '*helped empower the staff to empower the patients'* (Interview NN CTMUHB 20.10.06sw; Document DC22).

'When we were with the patients, we would turn that around and say, rather than, 'how can I help you?' 'How can I help you to help yourself?' Because we were looking to empower the patients to become independent, because that's our goal in district nursing is to make patients as independent as possible. So, it was a real shift away from paternalistic care to more proactive management, patient management of their own condition in the community, and the Care Aims training helped us to ask those questions of the patients' (Interview NN CTMUHB 20.10.06sw).

'The NDN pilot aimed to promote greater independence and self-management of their conditions, and to improve our relationships with our patients...the fact now that we've got much more of a rapport with those patients, so that's been much better' (Interview NN CTMUHB 20.10.06sw).

However, it was acknowledged that sustaining change and the different conversation was sometimes challenging due to the everyday pressures of workload and capacity. *'...sometimes it's easier to just do the doing as opposed to sitting down and talking through the problem and trying to come up with a more sustainable long-term solution'* (Interview NN CTMUHB 20.10.06sw).

Principle 2. District nursing teams should be structured so they are co-terminous with the cluster catchment/footprint. Each district nursing team or unit should have a distinct and identifiable geographical neighbourhood, zone or district within the cluster.

Smaller teams were seen as *'much more beneficial to patient care'* and helped improve relationships with GPs (Interview NN CTMUHB 20.10.06sw). They were reported to have enabled better relationships with patients and a better, in-depth knowledge of the patient. NDN reported greater familiarity with more personal, relationship-based care provided, *'...there are less nurses going into the same patients. So, they get to know that patient very, very well'* (Interview NN CTMUHB 20.10.06sw).

This also has benefits for the virtual ward as NDNs, '...*can have conversations about the patients and advocate for them in a more accurate way, because they know Mrs Jones, they know what she likes, they know what will help her in the community, and they can convey that to a multidisciplinary team'* (Interview NN CTMUHB 20.10.06sw).

Principle 3. The skill mix within district nurse led teams should be predominantly nurse registrant supported by health care support workers dependent on the patients' care needs.

The four aims of the CTMUHB NDN pilot were recognised as creating additional work for the NDN team e.g., palliative care and COPD, *'We were putting more work onto an already stressed district nursing team.....that our registered nurse workforce was very stretched, so we recognised that we needed some support for the registered nurses, but in a more sustainable fashion'* (Interview NN CTMUHB 20.10.06sw). It was important to ensuring that there was clarity and a defined job description about the role (where it ends/limitations), and responsibilities.

The Band 4 roles were developed for each of the NDN teams (Document DC2) and were reported as a *'really successful part of the pilot'* (Interview 10.10.12 CTMUHBsw), as *'one of the biggest successes of our pilot'* and having *'worked exceptionally well'* (Interview NN CTMUHB 20.10.06sw).

'Band 4s was a massive, massive asset that was, well, I couldn't do without them, to be honest, they were great' (Interview NN CTMUHB 20.10.14sw).

Enablers that were seen to have contributed to the success of the Band 4 roles included:

- Individual post-holder traits – being motivated, enthusiastic, and innovative
- Buy-in of team leaders – they were, *'sure that they understood the band four role as well as the individuals and made sure that the work that they were given or delegated was within their remit and that it is safe to do so'* (Interview NN CTMUHB 20.10.06sw).
- Offering a career pathway/progression – potential to contribute to the registered nursing workforce, *'these two band fours used to be band threes within our service, and one of them has now gone on to do the registered nurse training. So, actually it helped us invest in our registered nursing workforce indirectly'* (Interview NN CTMUHB 20.10.06sw).

Band 4 NDN team members were provided with, *'extra robust training so they are able to undertake many tasks which a qualified nurse can do'* (Interview 10.10.12 CTMUHBsw). Their duties included routine tasks such as:

- Catheterisations (Catheter changes)
- Injections
- Compression bandaging
- Continence assessments
- Administrating insulin
- Some dressings, *'there is a description of the type of dressing they can do'* (Interview NN CTMUHB 20.10.27cw).

'There are lots of things that they can do or they can also see diabetic patients for their insulin as well' (Interview 10.10.12 CTMUHBsw).

'[name] was excellent when we first started getting the band fours up there in [location]. The two band fours that we recruited, [name] took them under [their] wing and ...gave them an excellent training package and we've had good feedback from them as well' (Interview NN CTMUHB 20.10.27cw).

'The bladder and bowel team provided bespoke training for our band fours. They can do bowel and well as catheters. There is a dressing course as well which is accredited. I think it's Agored that the band fours can do to make sure that they have some sort of education behind this (Interview NN CTMUHB 20.10.27cw).

The NDN pilot also provided a supportive, learning environment for Band 4 NDN team members to develop their knowledge and skills.

'I supported my band 4 member of staff with the training and post-training carrying out the new skills that they learnt' (Interview NN CTMUHB 20.10.14sw).

Developing this Band 4 workforce led to a number of benefits, such as increased confidence for healthcare support workers, freeing up the time of the NDN Band 5 RNs to undertake more complex care and some of the work around palliative care and COPD (Interview NN CTMUHB 20.10.06sw), upskilling and the provision of a career pathway for support workers.

'allows us to free up the time as well of the registered nurses as they are able to do some of the same skills as they can do as well' (Interview 10.10.12 CTMUHBsw).

'I'm really proud to say as well,some of the feedback is that she's actually gone on now to do her qualified nurse training' (Interview NN CTMUHB 20.10.14sw).

'They weren't replacing the band 5s by any means at all, but they could take some of the workload off them, so they could maybe see more of the complex visits' (Interview NN CTMUHB 20.10.14sw).

Principle 4: Each district nursing team or unit should have a clinical lead District Nurse with a NMC recordable qualification (SPQ) or a post registration community nursing degree and leadership training. At least 20% of their time should be spent on case management and at least 20% of their time undertaking supervisory activities, aiming towards a full-time supernumerary role as the needs of the team or unit dictate.

Good leadership and buy-in for the pilot were appreciated by NDN team members and seen as an important aspect, not only from the clinical lead but also senior managers within the health board.

'We definitely had very good leadership from our health board, and I think the support of the health board as well. […]. …there are quite a few people that don't like change, and I think listening to them and supporting them as much as possible, but leadership is key (Interview NN CTMUHB 20.10.14sw).

A senior nurse commented, *'We've given quite a fair amount of freedom to the teams involved. We've said to them, 'these are our thoughts, but you tell us what you need, you know your community better than what we do, the ball is in your court as to what direction this takes, and if you feel at any point that we're suggesting things that will not benefit your patient cohort then please tell us"* (Interview NN CTMUHB 20.10.06sw).

From the CTMUHB team leaders' perspective, providing support to enable culture change was important and required training (strength-based leadership and introduction to coaching & water-cooler coach workshop) (Document DC22), listening, appeasing and validating concerns and coaching with a distributed skillset provided by multiple people as opposed to being provided by one person for example from IT coaching from the IT champions (Document DC2) and life coaching (Document DC3).

'It was a totally new way of working, it was just to roll it out as successfully as possible, really. It was a lot of change of mind-set, getting away from historical ways of working, and it's mainly supporting, supporting my staff within that role' (Interview NN CTMUHB 20.10.14sw).

'When the idea came about of the Neighbourhood Nursing Pilot obviously a lot of people can become a bit frightened of change and so I was trying to really support staff and reassure them that with the pilot there were going to be elements of success with it and that it's going to change the way that we practice. So in that respect it was to motivate the staff because a lot of people become frightened when they know something is going to be changed in the service and it's just reassuring people really and guiding them through it' (Interview 10.10.12 CTMUHBsw).

'...taking their point of view on board as well. I think that was really important was to listen to them. If they had any queries or concerns as well, it was just mainly supporting them' (Interview NN CTMUHB 20.10.14sw).

[Name] was the coach for the COPD. [name], I'd say, was the coach for all meds management. I think I'm their coach for their supervision and [name] is their coach for Malinko. I think there's not one coach. We all played as a team and all brought our own expertise and that's how we've done the coaching part (Interview NN CTMUHB 20.10.27cw).

'We had life coaching as well where we had to read this book, if I can find it. I have got it in my office; I don't know where. Then we had to go and have a meeting with this gentleman, and we'd done an online quiz to see what our strengths and weaknesses were in relation to management. It was really beneficial because we showed different results and we had individual meetings with this life coach who went through how we could maybe change certain ways in which we practice and certain ways in which we manage our staff. I found that really beneficial as well' (Interview 10.10.12 CTMUHBsw).

'The coaching was something different I hadn't done before so I found it really beneficial because he identified areas which I could improve on and areas where he thought I was doing really well. For instance, the chap said to me one of the issues was you need to stop taking on too much and you need to let people sometimes try and solve problems on their own with support and not try and do everything for people. But

everybody's results were all varied, and it was really helpful. It was good fun as well' (Interview 10.10.12 CTMUHBsw).

I know the health board put on coaching sessions for us as well, which was really, really beneficial. That part of it was great. I know there were another few study days that we went on as well (Interview NN CTMUHB 20.10.14sw).

I think it [coaching training] was maybe to see the behaviour of how you manage stressful situations, and basically the psychological mind-set of how you worked, really. It was really beneficial' (Interview NN CTMUHB 20.10.14sw).

Things that didn't work so well included performance data collection and gathering patient outcomes (Document DC2, D22).
'We relied quite heavily on existing methods of data collection within the organisation, and they didn't always give us what we wanted or what we needed. So, I think perhaps we would have planned that a bit better at the outset about how we were going to capture the data' (Interview NN CTMUHB 20.10.06sw).

'That's one of the areas in which we've struggled, around getting patient outcomes. We were hoping that was going to come out of our COPD work, though because of the delays that have been involved there, and the patient outcomes haven't been captured. In terms of virtual ward, there may be some patient outcome data from the virtual ward process, which will be held by the GP practice. So, we're hopeful there will be something there. I mean I can only speak anecdotally unfortunately' (Interview NN CTMUHB 20.10.06sw)

Principle 5. There should be at least one deputy team leader District Nurse with a recordable qualification (SPQ) or a post registration community nursing degree and leadership training case manager within each district nursing team.
The only comment we received from a deputy team leader was about her appreciation of the role of senior colleagues to support their staff through change which was highly valued '*at the time I had a wonderful team leader. It's strange now because I work*

opposite her now. She was wonderful' (Interview RH CTMUHB).

Principle 6: To promote the continuity of an individual's care and to develop expertise about assets within a community, each district nursing team or unit within a cluster should have a staffing complement of no greater than 15 staff / 12 WTE.

The NDN pilot planned some early engagement with staff and stakeholders such as GPs, Local Authority and health board clinical colleagues with the purpose of sharing the NDN vision and the changes planned for service delivery e.g., end of life care (Document DC2). Comments here demonstrate that the NDN team received support from their colleagues within the health board and the third sector which contributed to their reported success.

'We were very lucky in that we had good support from our colleagues in the health board. Our specialist nursing colleagues helped us, particularly in our COPD work. So, our respiratory specialist nurses were very helpful and on board with the changes that we were looking to introduce, but also with our band four roles as well, in upskilling those. So, our diabetic specialist nurses, our bladder and bowel service, and our lead for medicines management, all contributed to making this pilot a success' (Interview NN CTMUHB 20.10.06sw).

However, there was some acknowledgement that the third sector was an 'underutilised source':

'There's a lot of problems that we can't solve as a district nursing service, but there are a lot of third sector organisations and volunteer organisations that really can offer a fantastic service that patients could benefit from. And I'll be honest, they've been a bit of an underutilised resource for some of years, but we're really looking to tap into that because we feel their contribution is extremely valuable' (Interview NN CTMUHB 20.10.06sw).

Principle 7: 26.9% uplift should be used in calculating the headroom within a team.

Morale within the teams was described as *'improved'* (Document DC3) *'skyrocketed'* and it was felt that *'We really got staff to enjoy their jobs again, and also patients started to feel that benefit too'* (Interview NN CTMUHB 20.10.06sw). This was

attributed to the Band 4 and admin/care navigator roles, an investment in IT resources and the *'general sense in the teams of being involved in something new'* (Document DC3).

Unfortunately, at the time of the interviews with CTMUHB there were some staff shortages that had disrupted the two teams and led to the two teams working together to cover the cluster.
'W*e are really down to the core of, I think we're trying to work as one at the moment […]. …and one of the team leaders are off'* (Interview 201013DLC CTMUHB).
The evening rota shift was perceived to be problematic, '*It starts 13:30 until 21:30. At 16:00 you're on your own'* (Interview 201013DLC CTMUHB). Staff were in agreement that having more staff nurses on during this evening shift would relieve some of the pressures faced.
'I would try and get two nurses on during the evening […]. You cover everything, and anything and everything can come in […]. If you've got a palliative patient on which happened a lot over the summer period, you've got to rely on the other teams to help us but of course they've got their own issues and it can be a real stressful trying to get two nurses, one from another team to do palliative (Interview 201013DLC CTMUHB).

'The main thing is having bank and things for band fives and registered nurses are very difficult to come by. At the moment, I'm in a very bad place. I've got 14 vacancies, I think. The difficulty of getting staff, good staff, is a problem. There is probably a flood of very good healthcare support workers out there. If we could train, they could really support us a little bit more with some of the tasks that the registrants have. I think there is room for that' (Interview NN CTMUHB 20.10.27cw).

It was appreciated that the Band 4 role was not implemented widely in Wales and there was *'some opposition in some areas around the band four role, because I think some people felt as though we were trying, not we personally, but the band four role was designed to take away from the band five role'* (Interview NN CTMUHB 20.10.06sw).

Principle 8. Each team should have access to at least 15 hours administration support per week.

Prior to the NN pilot, there was no administrative support in CTMUHB (Interview NN CTMUHB 20.10.14sw).

'When this came about, we did learn that you could not have Malinko without admin support. Therefore, we decided to spend some of the money on the admin' (Interview NN CTMUHB 20.10.06sw).

Administrators in the CTMUHB pilot are referred to as 'navigators', '*because we didn't want them to just be admin. We wanted them to be able to answer the phone, signpost people to different places and to be far more proactive in trying to help the district nurses'* (Interview NN CTMUHB 20.10.27cw).

'...and we wanted them to be that link between our service and the third sector...with the aim for them to become 'experts in what services are available in the community' (Interview NN CTMUHB 20.10.06sw).

The introduction of the administrator role at CTMUHB was described as evolving, '*a life saver to us so they would benefit from having a coordinator' (*Interview NN CTMUHB 20.10.13dp).

'One of the most positive things,even possibly more positive than Malinko , is the fact that we've got the navigators' (Interview NN CTMUHB 20.10.27cw).

'She's amazing in what she does, and it tends to free up my time then to be able to support my staff and go and visit the patients as well' (Interview 20.10.12 CTMUHBsw).

'...so we could actually do the nursing, which is what we wanted to do, rather than admin tasks all the time. So it was a massive asset having the administrator' (Interview NN CTMUHB 20.10.14sw).

The administrator at CTMUHB came with previous administrative experience within a district call centre setting '*I used to work in the district nurse call centre on ambulance*

bookings, so I already had a knowledge of the district nurses' (Interview NN CTMUHB 20.10.13dp). Roles and duties to the role has included:

- Allocating calls to staff
- Being a main point of contact for staff
- Monitoring the email system
- Monitoring the 'Ad Astra' system
- Updating staff with changes to visits
- Scheduling visits via Malinko
- *'helping out with sickness management'.*

Navigators have also forged links with the community with oversight from the clinician. '*They can signpost but there's always a clinician making decisions about clinical issues. When there's leg ulcer clinic and is there a leg ulcer club and things like that. They know about the Lindsay Leg Clubs and all sorts'* (Interview NN CTMUHB 20.10.27cw).

The role as intended is now developing with navigators building relationships and knowledge of third sector and community services.
'So whilst our initial focus was on administrative duties, we are evolving that role to include the third sector. It was always an aim of ours anyway, it's just in amongst everything else, it got a bit lost' (Interview NN CTMUHB 20.10.06sw).

'We're opening up the links now with the third sector, so our community navigators meet regularly with community coordinators who are based in the community and have an in-depth knowledge of voluntary services available in each community [...]. the model has allowed us to move away from just automated referrals and try and build relationships with the organisations that we deal with' (Interview NN CTMUHB 20.10.06sw).

Key aspects to developing and implementing a high-quality neighbourhood nursing service.

When asked about key aspects to developing and implementing a high quality NDN

staff listed communication, community/ population assessment and providing formal space for regular open and honest team discussions about progress, feedback and problem solving, and informal catchups.

'...definitely communicating with the staff, so they know what to expect and they know what's coming is definitely massively important' (Interview NN CTMUHB 20.10.06sw)

'...to look at what their communities require. I think it needs to be focused on the needs of the community and without knowing what those needs are, then it's difficult to tailor the interventions to what's required' (Interview NN CTMUHB 20.10.06sw).

'...throughout the planning process.... 'I would call up there. We'd sit down around the table as a team, including everybody around the table, and we would have open and frank conversations about how things were working, because that also helped us pick up issues along the way as well, and make sure that we were trying to resolve those issues as and when they were picked up' (Interview NN CTMUHB 20.10.06sw).

Case study 3 Powys Teaching Health Board

The aim of NDN pilot in PTHB is to deliver a 'model of care which will work in partnership with health and social care organisations in supporting people to live well for longer at home or in a homely setting of their choice' (Document DP1). Principles of the model are:

1. Person centred holistic care with the patient at the centre, embracing a partnership approach with social services, GP's voluntary services and other providers.
2. Therapeutic relationship building and a co-productive approach with service users making informed choices regarding their own care. Promoting wellbeing and independence whilst also involving families, neighbours and the wider community, aligned to the Powys Health and Care Strategy.
3. Small self-managing teams within clusters.
4. Supportive leadership and management structures enabling professional autonomy.
5. To align to the Interim District Nursing Principles.

6. To maximise the use of WCCIS within the Cluster Teams

The expected benefits to the model were to:

- Improve provision of holistic care moving away from task orientated care
- Strengthen the utilisation of community capacity and self-care models
- Improve management of time, decision making with enriched networks to support and care for people in the community
- Enable and empower patients to be a 'partner' in their care
- Maximise the use of the WCCIS information system to improve communication to enhance patient outcomes.

The NDN pilot in PTHB teams are Llanfair Caereinion, Montgomery and Builth Wells DN teams. The focus of the model was Virtual Wards, Frailty, Palliative Care, admission avoidance, recruitment and retention. The NDN pilot in Powys THB has proved to overall be a positive experience for district nursing.

'It's nice to be involved in something that may develop the service a bit. I feel like district nursing has been the same for a long time now really, and it's nice to somehow just inch it forward a little bit in some ways. I think that's been excellent, and really nice to be a part of. […]. I think it's been lovely to be a part of that and to hopefully progress district nursing a little in Powys' (Interview NN 20.10.27cw).

Table E3 summarises the context mechanism and outcome configurations which resulted after analysing the Powys THB data using the realist approach.

Summary of CMOs - Training and development of Band 4 Assistant Practitioner
• The need to optimise the PTHB NDN staff skill set to align to interim DN principles and maximise caseload efficiency triggered the training and development of Band 4 staff members. This included shadowing skilled members of the team, and one-to-one training such as wound care, leg care, Doppler use, and bandaging. The Band 4 skill development training was underpinned by the competency pack. As a result, the NDN Band 4 team members gained an enhanced skillset, enabling them to undertake work such as using the falls assessment tool, and giving education and advice to long-term patients and their care supporters. In turn, this has released time for the NDN ANP and NDN RNs to increase the

number of patient visits by two per day and carry out the more proactive care and caseload management of frail and complex patients.
Summary of CMO - Patient holistic care via the Virtual Ward
• A combination of a daily virtual ward meeting with a weekly MDT meeting served by a virtual ward clerk triggered better partnership working and information sharing supported by WCCIS to the benefit of patients.
Summary of CMO - Care Aims training
• If you use Care Aims training it triggers a different NDN conversation with patients, families and colleagues that results in an increase in collective and individual critical thinking about a case, promotes individual independence and contributes to a reduction in caseload size.
Summary of CMO - District Nursing Staffing Principles
• The requirement to develop NDN Band 4 staff members was to support interim DN principles with a role focus on prevention/early identification of disease in addition to tailoring it to the needs of individuals. This triggered the project to take responsibility for the development of the job description. As a result, NDN Band 4 job descriptions were aligned to the DN principles and in post in all 3 teams, however, the recruitment process was a lengthy procedure. • The aim to ensure there is a NDN Band 4 framework working at the appropriate level triggered the review of NDN Band 4 skills and competencies alongside the therapies. This results in a blended autonomous role aligned to the Powys Health and Care Strategy. • Providing an admin post for 15 hours per week has freed up time for NDN team leaders to concentrate on other duties, resulting in reported increased visits and more time to undertake proactive care with individuals and their families.

Person centred holistic care with the patient at the centre, embracing a partnership approach with social services, GP's voluntary services and other providers.

The NDN pilot embraced a partnership approach to patient centred holistic care with stakeholders by participating in the virtual ward and arranging for a member of the third sector to be based with the NDN team. It was thought that the pandemic had influenced partnership working relationships for the better and had resulted in NDN team members

placing greater emphasis on promoting patient independence.

Initially set up as 'GP led', virtual wards are supported by the virtual ward clerk and operate daily. They are accompanied by a weekly MDT meeting:
'...we run a daily virtual ward. I don't think many, when they first set up, ran a daily virtual ward, I think that model is actually being looked at, really, that it's an excellent model, helped so much by the virtual ward clerk, she's real' (Interview NN PTHB 20.10.29dp).

The GPs were responsible for leading the virtual ward and the meeting was represented by a number of professionals:

- DN team
- Reablement team
- Social services
- OT team
- Physiotherapist team and
- PAVO representing the third sector (Community Connector)
- Pharmacy (Interview NN PTHB 201027cw).

A range of professionals including PAVO, a third sector organisation, attend the weekly MDT meetings. Prior to Covid-19, the virtual ward had been held in the GP surgery but has since operated remotely. The move towards the remote operating of the virtual ward was seen to be more efficient. *'I think it actually does, potentially, work better doing it remotely, I think it brings a bit more focus'* (Interview NN PTHB 20.10.26dp).

'So, a really good virtual ward that we run daily, even if nobody's on the virtual ward we meet daily because, then, you find, actually, somebody should be on and it ties in, then, with our frailty approach' (Interview NN PTHB 20.10.29dp).

'*The whole point of virtual ward as well is to try and prevent hospital admissions. I think everyone acts a lot quicker now. If the GPs have got any concerns with a patient or we have and we think 'oh, they're at risk of being admitted', we are very proactive now at working*

quickly to try and put everything in place that we can for the patient to keep them at home (Interview 201029LC PTHB).

The open referral pathways for agencies means that *'anybody can admit to the virtual ward'*. The open forum and inclusivity of the virtual ward was viewed positively and provided an opportunity to share concerns about patients. 'We'd *discuss the cases that were listed as being on the virtual ward, but then it was open, has anyone else got any concerns?'* (Interview NN PTHB 20.10.26dp). Powys Association of Voluntary Organisations (PAVO) described it as a two-way referral process, PAVO both receive referrals from and make referrals to the virtual ward. '*For example, if I had a palliative care case and the patient would say, 'I'm really struggling with the pain or pain management,' I could then bring that and then it would be more of a medical discussion around that'* (Interview NN PTHB 20.10.26dp).

The benefits include improved access to information leading to effective communication which was supported by WCCIS.
'within the practice we've got access to all the information we would ever need for the patient and we've got our Welsh community communication system, as well, our WCCIS system, with our MDT and social services on board with that, we've got all the information we should need for a patient' (Interview NN PTHB 20.10.29dp).

The shared ownership of patients within the virtual ward and the opportunity to discuss patient care with the NDN team was also seen of benefit. '*We try and have a bit of a huddle after virtual ward really and we all hand over our visits then which is very helpful because we can discuss. The ownership is not on you, you can discuss with your team what you think is best for that patient'* (Interview 201029VC PTHB).

One element seen to be missing from the virtual ward in Builth was the regular attendance of a social worker from adult's services, *'they [adult SW] would occasionally join, but not often and they are a key component, really, in looking at how best to support someone within their own home'* (Interview NN PTHB 20.10.26dp).

It was highlighted that GPs had also noticed the issue of adult social workers not attending. This issue also had some consequences for PAVOs role.

'Feedback from that [mid-cluster GP meeting] is very much that they really value the third sector community connector involvement and, if anything, we've become de facto social workers, because social workers don't turn up. It's a fine line for us to actually balance, really. But particularly in Builth, to say that has been a real definite partnership working, as I've seen it anyway and right from that strategic, that planning, right to the operational we're doing' (Interview 201026CS PAVOdp).

Despite the benefits of the virtual ward, the inclusion of the third sector, outside of Builth was described as *'a bit haphazard across the county'* (Interview 201026CS PAVOdp).

'So whether it needs to be the messaging from higher up in the health board to say, 'this is who's part of this team and this is who needs to work together'. There's one MDT up in the North and we can't get through the door, and yet you've got the chief exec of the health boards singing the praises of the connector service, so it's odd' (Interview 201026CS PAVOdp).

Within PTHB, PAVO had been involved from the outset of the NDN pilot, which included their involvement on the strategic meetings to plan the project. PAVO welcomed the inclusion of the third sector.

'I suppose mainly we've been involved In the Builth area, not so much in the North, but we've been involved in the strategic meetings going along, as well […] I guess my role within that was ensuring that the connectors and the wider third sector were plugging into that and bringing that element of work into it, which I think is a real positive. Previously, in terms of the health board, look at the wider stuff they've done, at times it's been a bit of a slog to get the third sector involved with things. But from the outset they were very much, no, they wanted us to be a part of it, which has been a real positive' (Interview 201026CS PAVOdp).

However, over time, the role of PAVO in this element had dwindled.

'To be honest it's dwindled, it's dwindled quite a lot and I've changed roles, as well, so that's when [name] came in to start attending the meetings, which is why Sharon had the invite to start with. But I think, to be honest, she might have only attended one or two, so it did

dwindle off. […]. So very involved to start with, involved in the launch, then numerous meetings, but that, as I say, has dwindled off, certainly over the last five or six months' (Interview 201026CS PAVOdp).

The NN pilot itself had enabled better partnership working and information sharing, to the benefit of patients, families and organisations.
'I think by pulling the teams together, working with individuals, you share that information and I think that's got to be of benefit to the patients and their families and carers. Because, quite often, we see lots of people involved with an individual that's all doing their own bit, but no communication going on, so you might not know that the social worker is doing things tomorrow, you might not know that actually the connector's made a referral to Age Cymru. By pulling that all together within that Neighbourhood Nursing team and that kind of approach really benefits, it benefits us, in terms of our work, it also benefits the patient and their families' (Interview 201026CS PAVOdp).

Good working relationships between the DN team in Builth and PAVO, accompanied by recognition, or visibility of the third sector, and having a PAVO worker within the NDN team was attributed to the higher number of referrals received from the Builth team to PAVO, compared to other DNs.
'In Builth we probably get a higher referral rate from the nursing team than we do elsewhere from district nurses. […] it comes down to relationships a lot of the time, I think, so being involved from the start, [PAVO worker] being based there has built that relationship and that helps those referrals and it's a reminder that the third sector is there to help out. What we've found in the past is that you felt like you were knocking on the door all the time and the third sector and the third sector and people revert to the medical model or social care model and forget about what the sector's got to offer' (Interview 201026CS PAVOdp).

The virtual ward was attributed to supporting better working relationships with the third sector organisation PAVO.
'I'd say we've probably got a better relationship with them [PAVO] now, especially with them ringing into the virtual ward. [Name] came and did a bit of a teaching session with us around signposting to us, who to get in touch with. It's always good to know that, because

sometimes when you go to patients it's not a health need that they've got, necessarily, but there is something, they need that little bit extra and PAVO is brilliant for that (Interview 201029LC PTHB).

For patients identified as requiring *'that little bit of extra support'* (Interview 201029LC PTHB), the route to community services and the provision offered by PAVO was see as particularly helpful. '*A lot of patients don't want it, they say, 'oh, I don't need any strangers coming to my house'. A lot of patients don't want it at all but there have been a few patients that we've referred to [PAVO] just for that little bit of extra support'* (Interview 201029LC PTHB).

'We seem to have a good knowledge now locally of what's available, and our community connectors are really good. If there's something that we think, 'Oh, we're not sure about that one', we can contact them, and they're excellent, they've got a really good knowledge of what's available locally' (Interview NN PTHB 201027cw).

Furthermore, work had been done to develop relationships beyond the virtual ward and MDT meeting to build effective networks.

*'We've really tried to get to know the carers and form good relationships with those in the local area, both employed and those private carers. We've also tried to get to know who our local podiatrists are, who our local gardeners are, all sorts of different people like that, and we've got quite a good network of people now who we can signpost people to when they need any of that' (*Interview NN PTHB 201027cw).

The COVID-19 restrictions meant that many people had to work from home and the numbers of referrals from the NDN team had decreased in part due to the lack of face-to-face conversations that has taken part within the team. '*The biggest difference, I suppose, from my perspective, is that now, working from home, I have seen a reduction in the number of referrals from the district nursing team. Because quite often it was so easy being based within the office, because you would capture conversations and they were just come and give me a number on a Post-it Note, so I guess there's a little more work in the referral process into a connector at the moment, so there's a slight reduction there'* (Interview NN PTHB 20.10.26dp).

For patients, the emphasis on remaining independent and at home had become a key focus. *The other thing with COVID is the fear that patients have about maybe the need to go to hospital. So the importance of remaining independent and healthier at home has taken on perhaps more of an importance and a priority within their own lives because they want to have those services at home, whereas maybe, in the past, they would have been more happy to have had an admission'* (Interview NN PTHB 20.10.26dp).

Therapeutic relationship building and a co-productive approach with service users making informed choices regarding their own care. Promoting wellbeing and independence whilst also involving families, neighbours and the wider community, aligned to the Powys Health and Care Strategy

The Care Aims training was described as '*an excellent, really enthusiastic and empowering, a real feel-good training'* (Interview NN PTHB 20.10.29dp). Described as a *'key enabler'* (Interview NN PTHB 20.10.12dp) of the NN pilot, Care Aims has changed their approach to carrying out better caseload management and how they deliver patient care, and empowering patients and their families to manage their care through the different conversations and identifying what matters to the patient.

*'[staff] mention about how it [Care Aims] has changed their way of thinking and it's rather than doing to, it's about that step back and really hear the patient's voice and engaging them as participants within their care, rather than you will "done to models" (*Interview NN PTHB 20.10.12dp).

*'Definitely, I'd say the Care Aims training. I think that's been key to start it all, to change the focus of care, really. I don't know, I'd say a drive within the team to want to develop the service. That's what it's about really. It's to develop new roles and to develop the service' (*Interview NN PTHB 201027cw).

'[Care Aims was] really good because it opens your eyes because I think sometimes we do as district nurses, we take everything on and really we should be trying to empower the patients to try and manage themselves, try and get family around to manage and it gets you

into a different way of thinking (Interview 201029LC PTHBdp).

'*it definitely made me come back, look at the case load, look at what we're doing for the patients, look at the patients and think oh, you can manage that yourself, you don't need us for that and it has helped us'* (Interview 201029LC, PTHB).

'I think the other teams, as well, have really benefited from the Care Aims and it just reminds us not to lose sight of it and not to be reactive and responsive and sit back and going, right, whose duty of care is it? What is mattering to this patient?' (Interview NN PTHB 20.10.29dp).

'The whole Care Aims and Neighbourhood Nursing got us to look a bit more at, 'well can you manage it yourself'? 'Have you got a neighbour or a friend'? It's more a case of, is a visit really necessary? I've always got that in my mind now, when someone rings up wanting a visit' (Interview 201029LC, PTHB).

'It was perhaps about spending a lot more time looking at who was best placed within that patient's neighbourhood to provide that care, whereas before we would just go in and do the task, it was about looking at it slightly differently as to think, 'Oh, could the patient do that?' or 'Could a family member do that?' […]. Now, we've been doing that for a few years, we've actually found that our caseload is really well managed now (Interview SH PTHB).

Having 'different conversations' and a 'what matters' conversation with patients and their families had facilitated a more holistic approach to the provision of patient care.
'It's amazing how you address someone else's needs, how then their health improves, or whatever their trouble is or their concern is with their health, somehow it all seems to impact each other really, and just that more holistic view (Interview SH PTHB).

In turn, 'different conversations' were attributed to undertaking more thorough assessments:
'We don't just go in and ask about their wound care, we go in and ask them about their diet, about their fluid, about how are they sleeping, what support networks have they got in

place, are they managing around the home in general, are there any concerns from that point of view. […]. I think we've become better as a whole at doing more thorough assessments whilst we're there, not just concentrating as perhaps we have done as district nurses in the past, on the task we're there to do ((Interview SH PTHB).

There were aspirations to train all members of the team in Care Aims (Interview 201029VC PTHB; Interview NN PTHB 20.10.12dp), although it was acknowledged during one interview that, '...*we had the foundations there and, again, I believe, because of how our practice worked, as well, and our ethos was always there around supporting people to participate in their own health needs'* (Interview NN PTHB 20.10.29dp).

'They are going to try and look into getting everybody to do it because I think it's definitely worth getting everybody to do it' (Interview 201029VC PTHB).

'Now, there's only two of the team members who've done them [Care Aims], okay, maybe three […]. I got that on my PADR, so my performance review, to re-visit it with the teams. […]. So I want to present it now to our newer members of the team (Interview NN PTHB 20.10.29dp).

Small self-managing teams within clusters

The NDN staff interviewed described caseload numbers having reduced and caseload management was described as *'pretty tight, it's really tight'* (Interview NN PTHB 20.10.29dp). The reduction and better management of caseloads was attributed in part, to the NN pilot and the Care Aims training, through *'getting people involved in their own care'* (Interview NN PTHB 20.10.29dp)

R: *Our caseload reduced.*

I: What did it go from and to?

R: I'd say it went from around 150, […]. There was a little acceleration, I believe, when the Neighbourhood Nursing took off and the Care Aims took off and now we've got 105 with a patient, which is not huge. I feel we have been able to support other teams in the area, I was mentoring another team leader and I feel that very much on the similar page as I was and she's been able to reduce the caseload, as well. Our caseload, and I think this is

probably credit to how we've approached it and the Neighbourhood Nursing and how we've approached the Care Aims, it's been pretty static throughout our COVID period, which feels positive. Yes, there's ups and downs with it, but nothing huge and our ethos of care and getting people involved with their own care is, it takes time to do that. When people talk around figures on caseloads and numbers, you have to drill down into it to get an understanding of what's going on in those caseloads. We don't keep anybody on our caseload that's not active, we don't keep a just in case, we don't keep, well, we'll see you, our caseloads now is pretty tight, it's really tight, yeah (Interview 201029VC PTHB).

Opportunities within the PTHB NDN team were highlighted for skill development and career progression. An example provided was the healthcare support worker who had completed their nurse training.

'We've got to search our healthcare support worker role, which is going to be filled very soon, the healthcare support worker is actually semi-based in our team, she was covering evening services and the complex palliative care service within Powys, in North Powys, that we have. But she's actually taken the opportunity with our vacancy, which was a good vacancy, as it was our original healthcare support worker who we supported through her nurse training' (Interview NN PTHB 20.10.29dp).

*'I think there's 105 on WPASS at the moment, something around that. We are a smaller team, we are smaller than the others, aren't we?' (*Interview NN 201029 PTHBdp).

I know a lot of the teams look at our caseload and think 'oh, you're so much smaller', but it is, like we say, we're so proactive at discharging and changing the wound plans (Interview NN 201029 PTHBdp).

Supportive leadership and management structures enabling professional autonomy

The provision of a supportive environment and team structure was an important feature. Good working relationships facilitated healthy challenge, and feelings of empowerment:

'We've never been one not to challenge how we've been working with our team and the team have always supported each other and come along as a team with it. Yeah, so it's has lifted that, as in there is that more empowerment to do what you need to do' (Interview NN PTHB 20.10.29dp).

To align to the Interim District Nursing Principles

Principle 1. Professional nursing judgement should be used in determining district nursing team's establishments.

See model principles above.

Principle 2. District nursing teams should be structured so they are coterminous with the cluster catchment / footprint. Each district nursing team or unit should have a distinct and identifiable geographical neighbourhood, zone or district within the cluster.

See model principles above**.**

Principle 3. The skill mix within district nurse led teams should be predominantly nurse registrant supported by health care support workers dependent on the patients' care needs.

In the recruitment, development of the role, and through training and development of the NDN Band 4 Assistant Practitioner role, Powys Teaching Health Board NDN pilot is addressing both the District Nursing Principle No.3 and their own NDN model fifth principle. Recruitment to the Band 4 role was done to support the interim DN nursing principles. '*Part of the principles was to consider the Band 4 Job description in line with the NDN principles, e.g., Diabetes, COP Management, Heart Failure and Dementia, with a focus on prevention/early identification of disease'* (Document DP28). The Band 4 role had experienced some mixed success in Powys NDN teams because a member of staff had left.

The recruitment of a Band 4 Assistant Practitioner role was referred to throughout the meeting action notes (Documents DP28-32). Band 4 Assistant Practitioners were recruited to all three teams (Document DP7). However, notes indicate a delay in all successful Band 4 applicants being in post (Documents DP18, DP19, DP25). The process appears to be

hampered by THB recruitment processes e.g. refining and agreeing the job description, job evaluation, advertising the role (Documents DP28, DP29, DP30, DP31, DP32).

Despite acknowledging the potential of the Band 4 role, it was referred to as not having fully been used to its full potential. This was partly attributed to the job description and competencies to the role.
'It's one of those roles that they can see the potential. I think it has been a bit more difficult to really see and pinpoint that actual value, but I think that there's certainly work that could be done to really look at those job descriptions and those competencies' (Interview NN PTHB 20.10.12dp).

'I'm sure that the team leaders would give you more information around the Band 4 role and why that didn't kind of kick off as quick. My understanding from speaking to them is that that didn't quite go as planned, because I'm not certain of their reasons and I would rather leave them' (Interview NN PTHB 20.10.12dp).

There was no longer a Band 4 post within the Montgomery team. '*We did have a band 4 for a while, didn't we*' (Interview 201029LC PTHBdp). It was highlighted that a great deal of time had been spent getting the Band 4 'training up to date and stuff like that' (Interview 201029VC PTHBdp) and that the role of the Band 4 hadn't been fully realised, with reflections that this might have been different had they *'stepped into the role'* ((Interview 201029LC PTHBdp).

I' think it's a shame that we didn't get the full potential out of the band 4, I think if she'd had training beforehand or they were quicker with the training she could have been really helpful (VC, PTHB)
The size of the team was also viewed as a potential contributing factor to why the role had not embedded: '*I also think in a bigger team having a band 4 is probably more beneficial than coming to a smaller team like us, to be honest with you'* (Interview 201029LC PTHBdp).

In Llanfair the Band 4 post-holder was described as '*excellent within the team'* and an *'integral part of the team',* the NDN team members locate the Band 4 role sitting between

the Band 5 NDN RN and the Band 3. Duties allocated to the Band 4 role include:

- *'They don't write the care plans, they deliver the care plans that we prescribe* (Interview SH PTHB)
- catheter care
- more complex wound care
- medication management
- support the NDN RNs with the fall assessments and frailty assessments.

'So, after perhaps I'd gone out and done a frailty assessment, there may be follow ups to that, whether it's going back and reviewing their observations, or going back and reviewing how they've got on with the therapist, or things along those lines really, so she's supported that side of things as well' (Interview NN PTHB 201027cw).

By undertaking these duties, the Band 4 role has freed up the time of NDN RN staff. *'The registrants are now able to focus a bit more on some more complex care, with the Band 3s and the Band 4s taking some of those more simple cases and managing those really by themselves'* (Interview NN PTHB 201027cw).

It was felt that having the Band 4 role available offered a valuable means for Band 3 staff to progress, and this was highlighted as supporting recruitment and retention.
'One of the biggest benefits really is in terms of staff recruitment and retention, it offers that opportunity for when we've only had band 3s before on the community, to provide that band 4 position allows that progression and development for our Band 3s (Interview NN PTHB 201027cw).

'One of the healthcare's there has gone on over this time with remote learning gone on and done her nursing registration. So, it's really nice to see that progression. Both of our band 3s now within the teams have both started their level 4 qualifications, so we're seeing real progression with the healthcare assistants within the two teams, which is really good' (Interview NN PTHB 201027cw).

Principle 4: Each district nursing team or unit should have a clinical lead District Nurse

with a NMC recordable qualification (SPQ) or a post registration community nursing degree and leadership training. At least 20% of their time should be spent on case management and at least 20% of their time undertaking supervisory activities, aiming towards a full-time supernumerary role as the needs of the team or unit dictate.

Some senior staff had attended coaching training, which helped staff 'think differently' about how the DN team was managed and having 'better conversations'.

'...that [coaching training] was more for myself and my deputy about how we managed the team, and having better conversations with them, and about empowering them to make better decisions and to make decisions more independently and for themselves, really. So it was, I suppose, what neighbourhood nursing in some ways is about, taking away that hierarchical view and empowering the team to make better decisions themselves' (Interview NN PTHB 201027cw).

Coaching training had supported senior members of the NDN team to develop their leadership skills.

'Our deputy, and myself, have had coaching training through the Neighbourhood Nursing, yeah, so we've had that, the coaching training, again, we found it brilliant. Particularly we had a one to one, how many times do you have that opportunity to have a one-to-one coaching session? So that's been fabulous and, actually, a challenging process, as well, whereas you had it there in black and white what kind of leader you were' (Interview NN PTHB 20.10.29dp).

Two team leaders in the north teams of the PTHB pilot had completed a MSc level Advanced Nurse Practitioner (ANP) programme. This had prompted discussions about the need for an ANP in the community nursing teams, what it would look like and queries had been received from other DNs keen to undertake this role.

'I think that has logged a discussion regarding how can we, or do we, need advanced practice within the community in Powys? Also, what would that look like? Is it an extension in role for the team leader? Or is it a role that could be considered per cluster, almost? […] it's also prompted some questions to me by other district nurses saying they're keen to do advance practice, is this the future within district nursing there as well?' (Interview NN PTHB 20.10.12dp).

However, these considerations were tempered with caution about the priorities of the Team Leader role and the ANP role, and how best to manage this.

'They're [staff] keen to carry on with the role of the advanced practitioner. But following our discussions, it's a conflict, isn't it? When you're doing the team leader role and you're doing the role, both are priorities. So we had a conversation about our proposal, and it would be that the ANP role is utilised and developed within the community, but not necessarily as part of the team leader role. Because they've got so many small teams spread out because of the rurality, that would be a lot of advanced practitioners. So, it's the consideration of do we look at, like I said, per cluster? Because certainly their role and how they're linked to the GPs in around admission avoidance and that credibility within the service of their knowledge and the triaging, I guess, about what needs to require their escalation to the medical practitioners' (Interview NN PTHB 20.10.12dp).

'For myself, carrying out the ANP role and trying to develop that and the frailty tool, and then I'm still doing the same role really as team leader and everything else I was doing before, all the usual caseload. I think sometimes I feel like I haven't been able to give enough time to it as I'd like to (Interview NN PTHB 201027cw).

Principle 5. There should be at least one deputy team leader District Nurse with a recordable qualification (SPQ) or a post registration community nursing degree and leadership training case manager within each district nursing team.

The NDN team members spoke of mentorship and the support for the development of skills within the team. '*I've always had some mentorship and support here, yes, Powys and my line managers have been supportive throughout it and they've always been there'* (Interview NN PTHB 20.10.29dp).

Principle 6: To promote the continuity of an individual's care and to develop expertise about assets within a community, each district nursing team or unit within a cluster should have a staffing complement of no greater than 15 staff / 12 WTE.

The NDN pilot provided an opportunity for one Team Leader to develop expertise in frailty and the development of a frailty tool in PTHB for use within the pilot. A great deal of time

and work was spent developing the tool, including research and work with GPs (Document DP8-22, DP34).

'I developed the tool and did a lot of research to try and find out what the gold standard was at the time, and at the start of the project there wasn't a gold standard frailty assessment for the community, so I developed the tool around different aspects that we were interested in. I incorporated falls assessments in there, looked at support networks, looked at things that the GPs would look at, so bloods review, observation reviews, and then the Edmonton Frailty Scale as well was in there, and that's part of our GP practice, how they score people and admit them to the frailty register. So, it was also to work alongside the GPs to support their frailty register which was in place in some ways, but very minimal, and it wasn't a managed register, whereas now I think it's a lot more extensive, includes a lot more patients, and it's more of a managed register, rather than just being a frailty register (Interview SH PTHB).

Principle 7: 26.9% uplift should be used in calculating the headroom within a team.
No comments provided.

Principle 8. Each team should have access to at least 15 hours administration support per week.
Prior to the NN pilot, administrative support *'had dwindled over the years'* with funding securing *'five hours for the team per week'* (Interview 201029JM PTHBdp). As part of the planning for the NN pilot it was acknowledged that more time for an administrator was required. '*We identified straightaway that working to your grades and the support and the immense amount of admin now that district nursing, any nursing, has, that we do need an administration role in the service'* (Interview NN PTHB 20.10.29dp).

Subsequently, 15 hours was secured for both of the teams (Montgomery and Llanfair) with the two teams being covered by the same person which helped to avoid duplication.
'We secured, while the Neighbourhood Nursing scheme was going on, we secured 15 hours for our team and 15 hours for Llanfair team. It's the same person, so she was working across both the teams and then we weren't duplicating, it worked really, really well' (Interview NN

PTHB 20.10.29dp).

However, the pilot ending has meant NDN teams having to be *'inventive with budgets'* to continue to maintain administrative support yet acknowledging that it will not be the same. *'Now the Neighbourhood Nursing scheme has ended, we're actually having to support the admin through my budget slippage, at the moment, waiting for staff to come. […]. I'm hoping, especially with the district nursing principles, that this will be available in the future and it's one of the things that we need to really, well, I feel we need to push forward from the Neighbourhood Nursing. But we are trying to secure being inventive with our budgets over the teams here in the North, some hours it will be reduced hours, but we're hoping to carry on with some admin, but it will certainly not be the 15 hours we've been used to'* (Interview NN PTHB 20.10.29dp).

In PTHB NDN team the role of the administrator was particularly welcomed, and much positive feedback had been received from staff with members keen to maintain this resource.

'..that [administrative support] has evaluated very positively within the team and is certainly something that the team would really like to keep, because it has been so positive' (Interview SP PTHB).

'We've had administration support as part of the neighbourhood nursing, and that really has been invaluable to the team and invaluable to my role as well' (Interview SH PTHB).

Prior to the introduction of the admin role, '*a lot of the admin role that was being done by the Band 7'* (Interview SP PTHB), and its introduction had freed up time for the NDN team leaders to undertake other duties associated to their roles.

'The roll out of our admin workers is in the majority of teams. So I think, for me, that's a key principle that we need to secure. We need to make the fixtures permanent and look at how we finance, I guess, the posts so that we've got them in all our DN teams' (Interview NN PTHB 20.10.12dp).

The support provided by the NDN team administrator was a valued component, freeing up time previously spent by other members of the team.

‘We had another Band 3 but she was only part time and so I have kind of been a bit in between like doing my evening services but also doing this job, so for me the admin was really helpful because she could take that side of it’ (Interview 201029VC PTHBdp).

Admin duties included:

- Archiving
- Ordering
- Stock control
- Completing referrals
- Contacting and responding to queries (internal and external)
- Keeping on top of paperwork, *‘the email side and a lot of going through WCCIS making sure patients aren’t on there that shouldn’t be on there, like discharging patients if we’ve missed them off’* (Interview 201029VC PTHBdp).
- Supporting the management of caseloads via support to the NDN and team leaders
- Maintaining relationships and effective communication with other agencies

‘it's really good to have her to form that communication, and she's got a bit more time to do that, whether it's referrals or whether it's contacting different people for different reasons, she really is invaluable, she's excellent (Interview SH PTHB).

As a result, staff reported that it was freeing up time for the DN team and providing stability and coordination to the team during the day.

‘She'll make sure we're discharging people as we should be to keep our caseload really neat’ (Interview SH PTHB).

‘It's freed up a lot of registrants' time to do more visits, really, and allowing the time to be a bit more proactive with our care’ (Interview SH PTHB).

‘as district nurses we are out and about throughout the day and we've got different members of staff in different days, not everybody works full time, and she does provide that stability within the team, and that coordination within the office environment’ (Interview SH PTHB).

To maximise the use of WCCIS within the Cluster Teams

WCCIS (Welsh Community Care Information System) and PAS (Patient Administrative System) are the two IT systems used by PTHB, although staff also use the GP system (Interview 201029LC PTHBdp). Unlike Malinko, WCCIS doesn't allow for real time information and scheduling.

'*It [WCCIS} doesn't do anything around scheduling. When it was set up, I won't say promise, but it was mentioned, when it was being set up, that this could look at a time with the Microsoft calendars that you could look at this, I haven't heard anything coming from that, at the moment'* (Interview NN PTHB 20.10.29dp).

In terms of scheduling, NDN team members are responsible for planning their patient lists. '*We plan our own visits for the day, everybody has got their list. But it's not as if we put on the list right, you've got to go to so and so first, everybody can plan themselves who they're going to go to and when and obviously time visits'* (Interview 201029LC PTHBdp).

The use of PAS is well established in the Montgomery NDN team. '*...within the team here, use our Welsh PAS, which is a diary system used in the hospital for appointments and the likes, we use that, so we've used that for a long while here'* (Interview NN PTHB 20.10.29dp).

For the Montgomery NDN team, the absence of a 'real time' scheduling software was not considered a challenge given the small size of the team.

'It [PAS] won't give a real time but, because we're in a small team, we just know where everyone is. We keep in touch through the day and we've got our mobile phones and you're all aware of where people are […]. It [PAS] coordinates every day for the team, so if you're out there and you're in a problem, then there is always somebody at the other end of the line for you' (Interview NN PTHB 20.10.29dp).

The scheduling software Malinko has not been implemented in Powys, however, a need for a scheduling tool for the NDN team was highlighted.

'Whatever the decision is by our chief exec is respected, but we need to have that decision. We need to have that scheduling tool, because of all the benefits associated with scheduling

tools, we need to have one. Politically, or whatever, whatever that is, as long as we have one' (Interview NN PTHB 20.10.12dp).

Initial discussions had considered its implementation as part of the pilot, but this was not taken forward. However, the benefits of having a scheduling system were highlighted.
'I looked at Malinko and it looked excellent, it looked very good, I know we had a demonstration of that very early on and the health board decided not to go with that. I can certainly see, feel like that is the future, really, a more advanced scheduling system like that '(Interview SH PTHB).

Nonetheless, there were issues identified in implementing Malinko.
'...it didn't link up to our expenses and our different systems that they wanted it to link up to. I think that was probably one of the biggest concerns' (Interview SH PTHB).

The WCCIS software had helped to improve communication with other agencies such as social services, but challenges persist with its accessibility when staff are away from the office, which was linked to the poor mobile phone reception in the area.
'The biggest problem we have with it is our reception because we're in a very rural location, we do have issues with reception and being able to use it out and about. So really, for us with our reception here it's quite office-based, which is the biggest downfall with it' (Interview SH PTHB).

'*WCCIS comes with some of its issues and that's around the remote working and that digital part of it, and that's being looked at as we speak*' (Interview NN PTHB 20.10.12dp).

'Within the neighbourhood nursing, then, we highlighted the need to be more mobile with our notes, as well, I'm not sure, I don't think it was a success with Llanfair, probably because of the patch and the mobile signal being rubbish up in the hills' (Interview NN PTHB 20.10.29dp).

The provision of a VPN network and dongles had enabled the NDN team at Montgomery to do *'real-time notes outside patient's house'* (Interview NN PTHB 20.10.29dp) and provided

the opportunity to '*work while you're out*' (Interview 201029JM PTHBdp) and to *'access all the information at home'* (Interview 201029LC PTHBdp). Unfortunately, dongles were not universally available to all of the team.

'…only some of us have got the dongles, not the whole team, but I can actually open my laptop wherever I am after my visit, depending on phone signal, and do my documentation there and then so it's fresh in my mind' (Interview 201029LC PTHBdp).

IT concerns were also raised in respect of data collection, the capabilities of WCCIS and the extraction of meaningful data.

'I'm thinking then with the WCCIS......and to see do we already collect that? Is that information available and we just don't know it? If not, can we make it available so we've got some sort of dashboard that's ongoing? That's, kind of, around lack of, I guess, some information of the neighbourhood nurses flagged that up to us, but it has also got to be around what would be valuable to the team. So they're really doing their KPIs. I know what I want to measure, so I might have to add some in. But I want them to tell me as a team what would be useful to them' (Interview NN PTHB 20.10.12dp).

Key recommendations for future NDN services (Top Tips)

When asked about key recommendations for the future, collectively staff identified the value of the third sector, effective and reliable IT systems, setting out aims and objectives from the outset of the pilot with a clear plan for data collection to better inform the evaluation, measuring outcomes/data capture and reporting in order to evidence the aims and principles of the models.

Value of the third sector

'Third sector is key, for me, in terms of building the project, then (Interview 201026CS PAVOdp).

'The voluntary sector has a huge part to play in someone's wellbeing and their ability to remain in their own homes or come home to their own homes sooner, so it would be just embrace it because it works. People feel better within their own homes, generally, and their

recovery time, I personally believe, actually, is benefited by having the services within their own area, that would be my tip' (Interview NN PTHB 20.10.26dp).

Effective, reliable IT systems

'Making sure the systems are in place, so referral systems and stuff like that, so choosing WCCIS we're lucky, I think, as a third sector, that we've got that relationship with our statutory partners that have put us on WCCIS, so we can get referrals through that. I think health are catching up with WCCIS in some parts of Powys, not in all. We still get some referrals through on fax, the traditional ward letter, like wow!' (Interview 201026CS PAVOdp).

Measuring outcomes/data capture and reporting

'I think the evaluation side of it needs to be looked at, perhaps, from the outset as into what are you looking at measuring? How are you going to measure outcomes? How are you? I'm not a statistical, analytical programmer, but it is if you don't get those questions and those measurements right in the first place then it's very, very difficult to evaluate positives or negatives of anything' (Interview NN PTHB 20.10.26dp).

'Make sure that you've got your data collection systems in place to collect that data, because I've struggled to, in a simplistic way, pull what was needed. I think, for me, if I could have gone somewhere, and maybe it's because of access to people's information, I've not been able to have it. But for me, I would like the aim of the project is to do this. These are the changes and the actions that have been done to achieve it. This has been how we've done it. Then looking at a model of change, really. What you want to do, how are you going to do it? And how are you going to know that that change has occurred? I think, for me, that baseline measure I can't find of what was done before to what is done as an outcome of Neighbourhood Nursing. So I think, for me, it's just getting those metrics really clear from the beginning of where our current baseline is? What are you going to do to review? And how are you going to get there? (Interview NN PTHB 20.10.12dp).

Data collection

'I think the only thing I know we should have done better is our data collection isn't wonderful, wasn't wonderful. […]. I think it would have been better to sit down at the beginning to really look at those aims and objectives, and set out better ways to collect the data and better evaluation tools. I feel like we've come to the end, and we've done a lot of really good work, but I'm not sure we've got the data or evaluations there to measure that, and I do feel like we've fallen short on that, definitely' (Interview SH PTHB).

ANNEX F: Bibliography

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