Practice nurse home visiting:

A demonstration trial in North Coast NSW Medicare Local

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GLOSSARY OF TERMS AND ABBREVIATIONS

AHP	Allied Health Practitioner
DVA	Department of Veterans Affairs
GP	General Practitioner
HACS	Home and Community Services
INR	International Normalised Ratio (a test used to determine the blood clotting rate in people taking warfarin)
LHD	Local Health District
MNC	Mid North Coast
NCML	North Coast Medicare Local
NP	Nurse Practitioner
NNSW	Northern New South Wales
PN	Practice Nurse
PNHV	Practice Nurse Home Visit
RN	Registered Nurse

PROJECT SYNOPSIS

This project explored the feasibility, acceptability, and potential role for nurses working in general practice to provide home visit services and support general practices to deliver the Patient-Centred Medical Home model of care.

Multiple data sources were used to evaluate the project, including detailed activity based audit data from every episode of care; surveys with service users, participant interviews, documentary analysis and a literature review.

During the 12 month intervention period 421 home visits were provided by eight practices. Data were available on 420 home visits; 66 patient surveys; and 11 staff interviews. Service recipients were predominantly women (62%) and had a mean age of 82 years (range 22 – 100). Most visits were general practitioner (GP) initiated (58%) and the majority of service recipients received more than one home visit (72%). One fifth (21%) of home visit services were eligible for funding from another source.

The study found that home visits by practice nurses enhanced the provision of care by providing patients with more accessible and appropriate services at home, which largely did not require GP input. Patients and staff were highly satisfied with the service model and there was evidence of more comprehensive delivery of primary care in the community which addressed existing service gaps.

The provision of home nursing services can support the goals of the Patient-Centred Medical Home by providing timely care to patients who would otherwise have been unable to travel to see a GP or for whom a GP appointment was unnecessary. However, some of the services provided by the practice nurse home visit (PNHV) replaced or augmented services that could or should be provided by more specialised providers already available in the community (such as wound management, palliative care and home assessments). Facilitating a PNHV service from the base of a general practice enabled patients' clinical records to be easily be updated, medication changed, and appropriate diagnostic tests to be ordered.

The high rates of chronic disease in the community and relatively low cost of providing practice nurse (PN) care in comparison to GP care suggests that there are benefits from the use of home visits particularly for people who have difficulty accessing their GP.

There is evidence that this service both duplicates and augments existing services; however the gaps in existing service provision that need to be addressed are unclear. In addition, the service

does not provide a clear and equitable system for reimbursement for all patients and not all practices have the capacity to support a PN to undertake home visits.

EXECUTIVE SUMMARY

1.1 AIM

The aims of this project were:

1) To examine the feasibility, acceptability, and potential role for nurses working in general practice to deliver home visit services to patients with chronic health conditions.
2) To explore the impact that practice nurse home visits have on the general practices ability to deliver the Patient-Centred Medical Home model of care.

1.2 BACKGROUND

A well-functioning, general practice needs to shape the delivery of care around the patient's requirements. Yet many patients have difficulty accessing their GP due to a range of health and social barriers. Accessible primary health care can help prevent avoidable hospitalisation and there is evidence supporting the value of home visits in admission avoidance, mortality, and declines in functional status.

There has been a decline in the number of home visits by general practitioners (GPs) creating a potential gap in the delivery of GP services to some patients. Some home visits require only the scope of practice and skills of a practice nurse (PN), while other visits necessitate an exchange of information and interprofessional collaboration between a PN and a GP during the actual home visit.

To investigate increasing the capacity of the patient centred medical home the North Coast NSW Medicare Local (NCML), in conjunction with the NSW Agency for Clinical Innovation, established a 12 month pilot program to trial home visits by PNs in situations where there was a clinical need and the potential to provide additional value to the care of the patient. The purpose of the visits was to extend the care of the Patient-Centred Medical Home for patients who would unreasonably suffer through attendance at the practice and through this to investigate gaps in service delivery and the financial and operational implications of the visits from the Patient-Centred Medical Home.

The evaluation of *Practice Nurse Home Visit Trial* was designed to address the following goals:

- To identify service gaps in the delivery of primary health care to patients with chronic health conditions in the community setting.
- To test the feasibility of the administrative arrangements for PNHVs paid by NCML to meet identified gaps.

- To improve the patient experience in receiving their required care with the right service, at the right time, and in the right place.
- To improve the process of care from the patient and clinician perspectives.
- To test the business impact of PNHVs on the general practices.

1.3 METHODS

This evaluation was based on the principles of Inductive Logic Reasoning which involved the development and testing of a set of propositions relating to the evaluation questions.

The propositions the evaluation tested were:

1. Home visits by PNs will enhance the provision of care by:
    1. Providing patients with more accessible and appropriate services by:
        i. Providing a more convenient service that either prevents a lack of care or the unnecessary use of acute care services (e.g. emergency visits).
    2. Facilitating more comprehensive care by:
        i. Providing follow up and review of patients previously seen in the practice.
        ii. Providing assessment, and collaborative management, of acute conditions in patients who have chronic disease conditions and are known to the practice.
        iii. Provide assessment of the home environment and social factors that impact on a patient's health and ability to cope at home.
    3. Developing service processes that:
        i. Support more collaborative and multi-disciplinary integration of care (e.g. practitioner communication, shared care between nurses and GPs).
        ii. Facilitate reflection on the effectiveness of this approach to drive improvements.
        iii. Facilitate reflection on the impact of organisational culture on service processes.
        iv. Facilitate uptake and adaptation of the model in other contexts.
2. Enhanced access and provision of care will lead to:
    1. A positive patient experience (satisfaction and expectations).
    2. More comprehensive delivery of primary care in the community.
    3. Increased staff satisfaction (nursing and general practice staff).
    4. More efficient use of staff and staff skills.

In addition, the evaluation explored barriers and facilitators to undertaking home visits by PNs; staff and patient's perceptions of the impact and risks of this model of service provision; the administrative and business implications; and other lessons relating to feasibility and sustainability of this model of care and service delivery.

Multiple sources of data were used to address the propositions, specifically:

1) Detailed activity-based audit data including: Participation data; time taken; reason for visit, impact of visit, emergency avoidance, appropriateness, staff safety and risks; benefits to patients; and GP involvement;
2) Surveys with service users;
3) Interviews with participants representing stakeholder groups (PNs, GPs, practice managers, NCML project officers and program coordinators);
4) Documentary analysis;
5) Literature reviews.

1.4 RESULTS

Between April 2014 and March 2015, 421 home visits were provided by eight practices. Data were available on 420 of these visits. Individual survey responses were received from 66 patients. Nineteen (19) PNs, GPs, practice managers, and NCML managerial staff involved in the trial were invited to participate in an interview with the evaluation team: Eleven (11) of these individuals consented to be interviewed, covering five of the eight practices.

Audit results

The majority of home visits were provided to women (62%) with a mean age of 82 years (range 22 – 100). A small number (17%) of these patients had recently been released from hospital and for those people, the recent hospitalisation was the main reason for the home visit. Most service recipients received more than one home visit (72%). Twenty one percent (21%) of home visit services were eligible for funding from another source such as the Department of Veteran Affairs (DVA) or community nursing.

The most common reasons for the PNHV were for a general check-up (38%), followed by wound management (19%). Other reasons included International Normalised Ratio (INR) monitoring (15%), providing a required medication (8%), post-hospitalisation check (6%), confusion and changes in mental state (4%), non-attendance at practice (3%), home assessment (2%), request from an aged care facility (1%), and a post-fall check-up (1%).

The home visits were predominantly initiated by the GP (58%), with the PN and the patient/family or caregiver each accounting for 10%, a small percent by the practice manager (3%) and 18% unknown or not recorded.

The primary outcomes of the visit were patient reassurance (36%), medication changes or provision (28%) and dressing changes (19%). The PNs deemed that a home visit prevented emergency department visits in the case of 23% of patients, while 3% of home visits resulted in an emergency department visit.

Following the PNHV, a subsequent visit from a PN was required in 53% of cases; 20% required a review by their GP; 16% required no further treatment; and 15% were referred to other services.

During 32% of the home visits the PN made contact with the GP; this was predominantly to obtain a prescription or pathology request (65%).

The PNs deemed that a home visit was the most appropriate type of consultation for the patient in 97% of cases, and that 90% of the patients would have suffered had they been required to attend the practice. The main reasons given for the risk of patient suffering were frailty (27%), mobility difficulties (20%), because the patient was receiving palliative care or life support (17%), or had transport problems (16%).

The majority (58%) of home visits lasted for less than 30 minutes. Only 6% were longer than one hour. The mean distance travelled from the GP practice to the patient's home was 9.4km.

Patient survey responses

Patient satisfaction surveys were received from 66 patients. Patient feedback was overwhelmingly positive, with more than 70% of respondents strongly agreeing with statements that they were happy with the quality of the home visit, the quality of the care received, the skill and professionalism of the nurse, the information received and the duration of the visit. Ninety-eight percent (98%) of participants agreed or strongly agreed with the statement "Overall I was satisfied with the care provided during the home visit". Participants were largely positive about their involvement in decision making, the planning of their care, the timeliness of the visit, and the encouragement provided by the nurse, with between 60 – 70% of participants strongly agreeing with statements in support of these approaches. No negative responses were provided about the service.

As a result of the PNHV, many patients reported that they were better or much better able to understand their illness (54%); cope with their illness (61%); maintain themselves at home (58%); help themselves (62%); and were more confident about their health (50%).

Qualitative data

Barriers and facilitators:

PNHV stakeholders identified the following barriers and facilitators associated with the trial.

Communication with and engagement of GPs

Interest in the trial and effective internal practice communications were important precursors to engagement in the trial. In particular, GPs needed to be made aware of the value of the program and be reminded of the service availability. This was relevant both in terms of the way the practices were invited to participate in the project, as well as the levels of engagement of the GPs whose practices were already involved in the project.

[The project] seems to be better used in those practices where there has been good communication from the start, with the information about the project being shared with all practice staff from the reception staff receiving phone calls from patients or concerned family members through to practice managers, nurses and GPs.

Service benefits:

Ease of access, variety and flexibility of service provision, addressing unmet need in the community

The variety and flexibility of services provided by the PNs meant that it was a valuable adjunct to existing community nurse home visiting services for many patients by filling a gap not provided by existing funded service sources. The service responded to unmet needs in the community, in particular by funding services would normally be paid for either by the patient or the general practice; or providing a service that patients may not be able to access due to limited mobility or frailty. The accessibility of the PNHV service was enhanced by lack of bureaucracy and paperwork to use services. Additionally, the use of PN employed by the general practice reduced delays in referral and communication processes.

Duplication of existing services

Despite the benefits of the PNHV model, in some cases, it was seen to duplicate and threaten existing services and the additional added value was unclear. However, the study shows that there is inconsistent access to home nursing services across the region, a lack of clarity around the provision of these services, and gaps in timing and accessibility of the services.

Project management support

The provision of centralised project management support by the NCML was an essential prerequisite to the coordination and evaluation of this service across the multiple practice sites and health districts.

Confusion over funding / billing for services

The short-term nature of the funding created some challenges for the project. Some participants were concerned about the possibility of subsequent withdrawal of the project funding having created an expectation with their patients. The different sources of funding for home visits also created some confusion for practices.

Administrative implications

There was little evidence of formalised change to administrative structures or relationships to accommodate the PNHV project. Respondents acknowledged that the trial had increased communication between the GPs and PNs around patient care; however much of this was informal and unstructured, though the patients' files were updated to include the home visit.

The project has increased awareness about the way that PNs are employed for home visiting across the region which may create opportunities for the Primary Health Network to broker change at a system level, rather than the practice level.

Sustainability issues

The PNHV service was identified as a valuable adjunct to existing GP services, however to optimise the benefits of the service participants suggested the following:

- Undertaking a gap analysis to identify exactly where and how the service can be optimally employed. The aim of this should be to reduce duplication of existing services and optimise patient-centred care.
- Not all practices are able to support PNHVs due to different staffing models, practice size, and patient demographics. There was a suggestion that the PNHV service could be shared across a number of practices in specific regions.

1.5 DISCUSSION

Overall there was evidence that the provision of home visits by a PN addressed an important unmet need in the community by providing services to people who may otherwise be unable to access a GP due to frailty, mobility or affordability. Additionally, the majority of patients who received the PNHV appeared not to have needed direct GP input, suggesting that (a) the services are an important adjunct to regular medical care and (b) the PNHV may have reduced unnecessary GP visits.

However, the findings suggest that the PNHV service is replacing or augmenting an existing home visiting service. All of the practices involved in the trial provided some nurse home visiting, and nearly three quarters of all services were provided to people who had previously received a nurse home visit. Most general practices acknowledged the value of the additional service; however for many the main benefit was that they did not have to cover the cost of the service and they were able to use the PNHV services in ways that may not have met the eligibility criteria of other funded services.

The goals of the study were translated into propositions. The findings support the following propositions:

Home visits by PNs will enhance the provision of care by:

a. Providing patients with more accessible and appropriate services and
b. Facilitating more comprehensive care

Enhanced access and provision of care will lead to:

a. A positive patient experience (satisfaction and expectations)
b. More comprehensive delivery of primary care in the community
c. Increased staff satisfaction (nursing and general practice staff)
d. More efficient use of staff and staff skills.

However there was no evidence to support the proposition that:

Home visits by PNs will enhance the provision of care by developing improved service processes, specifically:

a. Support more collaborative and multi-disciplinary integration of care (e.g. practitioner communication, shared care between nursing and GPs).
b. Facilitate reflection on the effectiveness of this approach to drive improvements.
c. Facilitate reflection on the impact of organisational culture on service processes.
d. Facilitate uptake and adaptation of the model in other contexts.

1.6 CONCLUSIONS

The findings suggest that the provision of home nursing services supports the goals of the Patient-Centred Medical Home by taking care to patients who would otherwise have been unable to travel to see a GP, for whom an appointment with the GP was often unnecessary, and provided this service in a more timely and accessible way. However, there was also evidence that some of the services provided by the PNHV were replacing or augmenting services that could or should be provided by more specialised providers available in the community (such as wound management, palliative care and home assessments). Providing the PNHV service from the general practice provided the benefit of allowing the patients' clinical records to be easily updated, medication(s) changed, and appropriate diagnostic tests ordered. However, if the

PNHV service was used to substitute an existing service by another provider, it may reduce the continuity of that care. Additionally, there is no centralised way of assuring the quality of the PNHV services.

There is evidence that this service both duplicates and augments existing services; however the gaps in existing service provision that need to be addressed are unclear. In addition, the service does not provide a clear and equitable system for reimbursement for all patients and not all practices have the capacity to support a PN to undertake home visits.

There was no evidence from this study that the provision of PHNV increased wider service integration, nor was there awareness from participants of their role within the wider health system.

1.7 RECOMMENDATIONS

Recommendation 1: That further work is conducted to identify the specific service gaps and need for nurse home visiting services across the MNC and NNSW LHDs. This scoping needs to capture existing home-based nursing provision, eligibility criteria, service responsiveness, accessibility and the referral and communication processes between the GP and the service.

Recommendation 2: To examine the role of a Primary Health Network to help overcome the barriers to existing services, including mapping of services, awareness of services and the timely access to services.

Recommendation 3: To identify the patient groups for whom the visits were most used and identify how these people could better have their needs met. These are people with a health related need whose requirements are not adequately serviced.

Recommendation 4: To explore the system level responses that can be used to support the navigation of the existing services and resources (such as Health Pathways).

Recommendation 5: That if there is widened access to the provision of PNHV services as a way to support patients in primary health care, prevent avoidable hospital admissions, and enhance horizontal integration of primary health care services across the region, then consideration must be given to equity of access across the region.

Recommendation 6: If the PNHV service is to be continued, there is a need to explore sustainable funding models to support the service.

1 INTRODUCTION

The aim of this *Practice Nurse Home Visit* project was to undertake a demonstration trial to investigate the feasibility, acceptability, and potential role for nurses working in community-based general practices to deliver home visit services to patients. Initially it was proposed that these home visits would target patients with chronic disease, however shortly after the trial began the scope of the visits was increased to include any patient that the practice felt was appropriate in order to document the impact of the trial.

This evaluation is to examine what types of home visits took place, the value that they added at the patient and system level, and the operational and financial aspects of this trial. The learning from this trial is expected to be used to inform similar service initiatives.

2 PROJECT BACKGROUND

A well-functioning and patient-centred general practice needs to have the ability to shape the delivery of care around the patient's requirements. In some instances this requires home visits to patients who are unable, or would unreasonably suffer, by having to physically attend a practice location. It has also been shown that emergency department use can be reduced in situations where assessments, management, and case management can be carried out in the home, particularly for the elderly or those with chronic conditions affecting mobility (McCusker and Verdon, 2006).

Published systematic reviews and meta-analyses have examined the outcomes of home visits and have demonstrated that they are effective at reducing nursing home admissions (Stuck et al., 2002), mortality, declines in functional status (Huss et al., 2008) and emergency department visits (Reid and Bell-Lowther, 2008). Despite the identified need for home visits, the number of home visits by GPs has been steadily declining for more than a decade and home visiting is no longer considered a common or standard practice for many GPs (Joyce and Piterman, 2008). This has created a gap in service provision and potentially increased the number of emergency department visits by persons who are in need of, but cannot access, primary health care in a more appropriate setting. This trend will be difficult to reverse because undertaking home visits decreases the number of patients a GP can see in the practice during a given day and therefore the income of the practice.

A great deal of research demonstrates the value of using nurses to perform home visits in primary health care, particularly in the management of chronic disease (Baer et al., 1999, Mundinger et al., 2000, Quagliette and Anderson, 2002). The involvement of nurses in the

management of patients with chronic conditions in primary care has been shown to improve clinical outcomes as well as cost-effectiveness (Newhouse et al., 2011). A Canadian initiative to keep older people independent at home showed that using community nurses and nurse practitioners (NPs) to provide 'quick response' home visiting resulted in a 33% reduction in the number of emergency presentations compared to a control group (Reid and Bell-Lowther, 2008). Another study of the use of NP home visits by general practice showed a 40% reduction in patients' emergency presentations and an 80% reduction in their admissions to hospital from emergency presentations (Roots, 2012). While the majority of these studies involved NPs, a significant part of the care that was provided to these patients was within the registered nurses' scope of practice and could be undertaken by a practice-based registered nurse, or PN. A recent Australian study advocates for an increased role for PNs in the clinical management of patients and proposes refinements to current funding arrangements to achieve this (Afzali et al., 2014).

Some home visits require only the scope of practice and skills of a PN, while others necessitate an exchange of information and interprofessional collaboration between the PN and the GP which needs to be affected during the actual home visit. Such home visits can be used to:

- Provide follow up and review of patients previously seen in the practice;
- Provide assessment, and collaborative management, of acute conditions in patients who have chronic disease conditions and are known to the practice;
- Enhance access, co-ordination of care, and the delivery of more comprehensive care;
- Provide assessment of the home environment and social factors that impact on a patient's health and ability to cope at home;
- Address other purposes as identified on a case by case basis.

In this role the PN can provide an outreach service as part of the general practice team. Home visits are expected to enhance service provision and integration within the general practice. They are also envisaged to lead to increased patient satisfaction and improved outcomes, as well as possibly reducing the burden placed on other sectors of the health care system, particularly emergency departments.

To address this identified gap in service NCML established a pilot program to trial home visits by PNs in situations where there is a clinical need and the potential to provide additional value to the care of the patient.

This pilot program took place between April 2014 – March 2015. NCML, in conjunction with the NSW Agency for Clinical Innovation, provided the funding necessary for these home visits and project officers to co-ordinate the trial. General practices across the NCML region either responded to an expression of interest or were directly invited to participate in this trial. A

Memorandum of Understanding was signed between the practice and NCML which detailed the responsibilities of each party.

This project included an external evaluation to examine the types of home visits that occurred, whether they provided additional value to the care of the patient from the perspectives of both the patient and the health care provider, the risks associated with the activity, whether they prevented use of the emergency or acute care health system, and whether they were operationally and financially viable. The learning from this trial will be used to inform further similar service integration initiatives.

Evaluations of this nature are challenged by variations in the study settings such as differences in contextual factors including staff, organisational structures, services provided by outside agencies, and the local implementation of the funding models. In the majority of situations these variables cannot be controlled so an exploratory and descriptive evaluation design is more appropriate. One approach that takes these variations into account is the 'realist approach' which explores what interventions work for whom and under what circumstances (Pawson and Tilley, 1997). This approach enables the evaluator to draw on a range of data sources to examine how different mechanisms impact on specific outcomes, and in particular contexts. This methodology, Inductive Logic Reasoning, has been successfully used by these researchers in other evaluations (McLean et al., 2014, Nancarrow et al., 2013).

This evaluation draws on realist principles to address the project aims by developing a range of propositions which are based on the project goals and assumptions. These propositions are then tested using formative and summative approaches and multiple data sources. This method cannot examine the impact of the intervention, such as changes in the rates of emergency department presentations, as the small sample size, tight timeframe for the project, and the challenges of recruiting a control group, would not make this possible.

2.1 PROJECT GOALS

The PNHV trial had the following goals:

1. To identify service gaps in the delivery of primary care to patients with chronic health conditions in the community setting.
2. To test the feasibility of the administrative arrangements for PNHVs paid by North Coast Medicare Local to meet identified gaps.
3. To improve the patient experience by providing them with the right service, at the right time, and in the right place.
4. To improve the process of care from the patient and clinician perspectives.
5. To test the business impact of PNHVs on the general practices.
6. To understand the impact of organisational cultures on this project.

7. To evaluate these project goals to inform decisions on wider adoption or adaptation of this form of service integration.

Initially this project was designed to focus on patients with chronic conditions, but the project subsequently expanded in scope to include any condition to see what needs emerged in general practice.

3 METHOD

The first step in the use of Inductive Logic Reasoning was to develop propositions from the project goals and assumptions. The following propositions were developed:

1. Home visits by PNs will enhance the provision of care by:
    a. Providing patients with more accessible and appropriate services by:
        i. Providing a more convenient service that either prevents a lack of care or the unnecessary use of acute care services (e.g. emergency visits).
    b. Facilitating more comprehensive care by:
        i. Providing follow up and review of patients previously seen in the practice.
        ii. Providing assessment, and collaborative management, of acute conditions in patients who have chronic disease conditions and are known to the practice.
        iii. Provide assessment of the home environment and social factors that impact on a patient's health and ability to cope at home.
    c. Developing service processes that:
        i. Support more collaborative and multi-disciplinary integration of care (e.g. practitioner communication, shared care between nurses and GPs).
        ii. Facilitate reflection on the effectiveness of this approach to drive improvements.
        iii. Facilitate reflection on the impact of organisational culture on service processes.
        iv. Facilitate uptake and adaptation of the model in other contexts.
2. Enhanced access and provision of care will lead to:
    a. A positive patient experience (satisfaction and expectations).
    b. More comprehensive delivery of primary health care in the community.
    c. Increased staff satisfaction (nursing and general practice staff).
    d. More efficient use of staff and staff skills.

In addition, the following questions were explored:

1. What are the barriers / facilitators to this model of care delivery and service integration?
2. What are the staff and patients' perceptions of the impact and risks of this model of service provision?
3. What are the administrative and business implications of this model of care and service delivery for the GP, the practice, the PN, and patients? Are there any other lessons relating to feasibility and sustainability of this model?

Four data sources were collected to test the propositions and questions: activity data, survey data, interview data, and documents from meetings and reports that related to the project.

The activity data included demographic data relating to the home visit patients, the number and type of patients seen, the reasons for the home visits, whether the visit prevented an emergency department visit, any safety concerns associated with the visit, alternative available funding, length of time for the visit and distance travelled. This data was collected on a checklist completed by the PN for each home visit (Appendix A). These data were analysed descriptively to provide frequency statistics.

Every patient seen by a PN was provided with a survey form. The purpose of the survey was to obtain their perspectives on the value of the home visit. The survey form is attached in Appendix B.

Interviews were held with the PNs, GPs, practice managers, and NCML managerial staff who were involved in the project to ascertain their views on the success of the project in meeting its goals. The interviews followed a semi-structured question format (Appendix C).

3.1 ETHICS AND GOVERNANCE

Ethics approval for this research was obtained from the Human Research Ethics Committee, Southern Cross University, Approval Number ECN-14-172.

The project was overseen by a steering committee which met five times during the course of project. As the NCML region contains two local health districts (LHDs), Northern NSW (NNSW) and Mid North Coast (MNC), representatives from both these LHDs were included in the steering committee.

PNHV Steering Committee Members

NCML members
Sharyn White, Manager Strat Dept and Service Design
Tracy Baker, Program Manager Health System Reform
Bernadette Carter, Program Officer
Fiona O'Meara, Program Officer
Dr David Gregory, Clinical Lead

Dr Dan Ewald, Clinical Lead
Chris Clark, General Manager Northern Rivers

Other members
Josh Collins, Acting Nursing Unit Manager, NNSW LHD
Chiron Webber, Practice Manager, Mullumbimby Medical Centre
Maria Horseman, Practice Nurse, Sawtell Medical Centre
Bronwyn Chalker, Director Allied Health MNC LHD
Laurie Clay, Practice Nurse, Durri Aboriginal Medial Services

External Evaluators
Professor Susan Nancarrow
Dr Alison Roots

An evaluation advisory committee was also established which comprised content and methodology experts in primary health care, integration, rural health, and workforce issues. The committee comprised the following members who met twice with the evaluation team during the course of the project.

Dr Lucio Naccarella, University of Melbourne

Associate Professor Gawaine Powell Davies, University of New South Wales

Associate Professor Michele Foster, University of Queensland

4 RESULTS

Eight general practices across the NCML region participated in the trial, four from each LHD. Seven of the participating practices responded to an expression of interest. One withdrew due to geographical barriers to accessibility (described under the qualitative findings). A further three practices were personally invited to participate, of which two took up the offer. Across the eight practices a total of 421 PNHVs occurred between April 2014 and March 2015.

Table 1 provides the context of the participating practices. Figure 1 shows the total number of visits by practice and Figure 2 shows the cumulative recruitment rate over the trial period.

Table 1: Practices participating in the PNHV trial

Primary care practice	Number of GPs	Other Service Providers within the practice setting	Practice Volume	Total Number of Home Visits
1	14 x GPs	7 x Practice Nurses 1 x Practice Manager	7-8000 patients	23
2	1 x GP	1 x Practice Nurse 1 x Practice Manager	1200 patients	92
3	7 x GPs	2 Practice Nurses 1 x Practice Manager	4000 patients	111
4	5 x GPs	3 x Practice Nurses 1 x Practice Manager	5000 patients	93
5	11 x GPs	5 x Practice Nurses 1 x Practice Manager	9000 patients	17
6	5 x GPs	5 x Practice Nurses 1 x Practice Manager	7000 patients	15
7	7 x GPs	1 x Practice Nurse 1 x Practice Manager	3500 patients	3
8	4 x GPs	2 x Practice Nurses 1 x Practice Manager	4500 patients	67

Figure 1: Number of home visits per practice

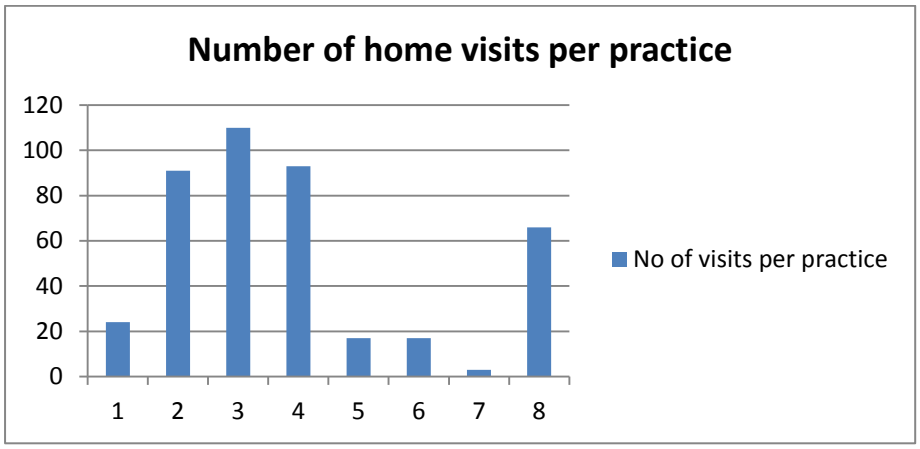
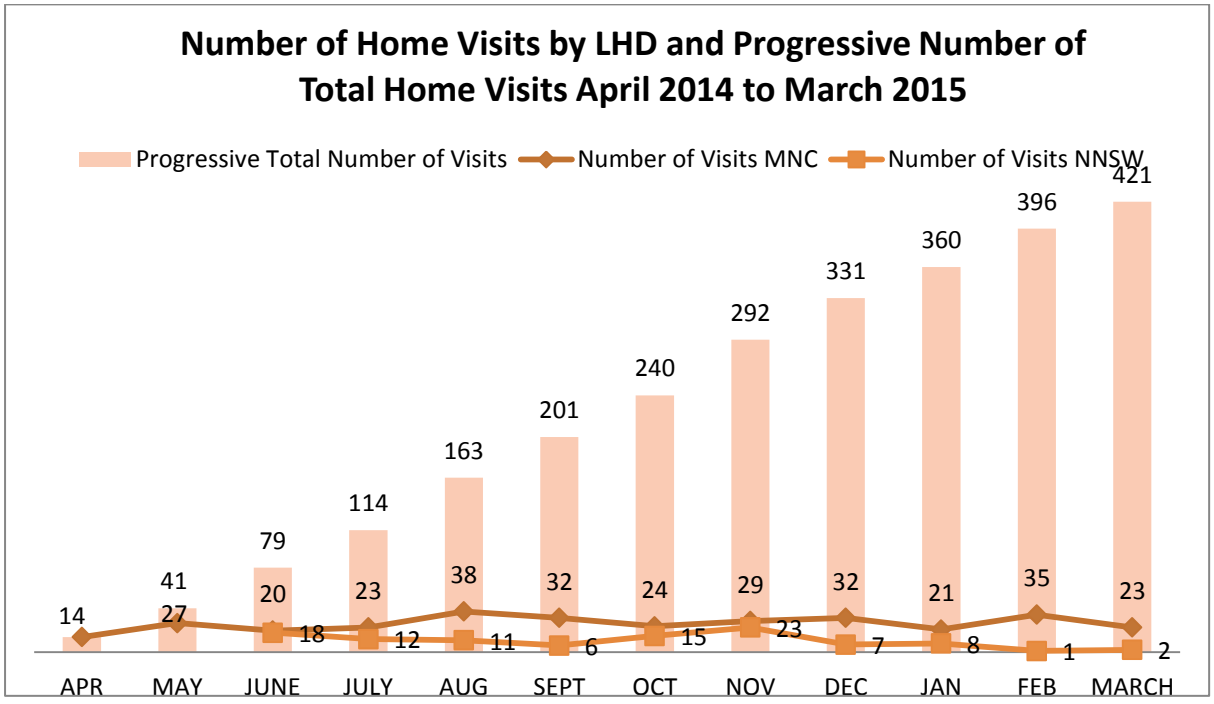


Figure 2: Number of home visits per month per LHD and progressive total number of home visits



4.1 AUDIT AND INTERVIEW DATA

Home visit data collected by the PN was available on 420 of these visits (1 checklist was lost). From this data it was not possible to ascertain the exact number of unique patients versus repeat home visits; however one practice had a significant number of repeat users of the home visit service with six patients receiving 46 home visits between them in a six month period.

Nineteen PNs, GPs, practice managers, and NCML managerial staff involved in the trial were invited to participate in an interview with the evaluation team: Eleven of these individuals consented to be interviewed, covering five of the eight practices.

4.1.1 Home visit recipients

The recipients of the home visits were predominantly female (62%) with an average age of 82 years (median 84 years, range 22 – 100 years). The majority of these patients (72%) had had a previous home visit; however without being able to identify the number of repeat home visits within the total number of visits this figure is hard to interpret.

4.1.2 Reasons for home visit

The most common reason for the home visit was for a general check-up (e.g. checking the patient's vital signs, how they were generally feeling, and how they were coping at home). This was followed by the need to provide wound management and INR monitoring. In nearly half the visits more than one concern was able to be attended to at the same time. Table 2 provides an overview of the frequency of the reasons for home visits. From these visits the primary outcomes were patient reassurance (36%), medication changed or given (28%), dressing changes (19%), referral to others (8%), diagnosis / treatment of urinary tract infection (2%), no treatment provided (1%), and a variety of other outcomes (5%).

Table 2: Reason for home visit (n = 419)

Reason: (42% of home visits had 2 reasons provided)	**First reason** (% of home visits)	**Second reason** (% of home visits)
General check up	38%	18%
Wound management	19%	9%
INR monitoring	15%	2%
Medication required	8%	3%
Post-hospitalisation check	6%	1%
Confusion/Change in mental status	4%	0
Non-compliant/Does not attend practice	3%	3%
Home assessment	2%	3%
Request from aged care facility	2%	0
Post-fall check	1%	1%
Other reasons	4%	1%

Interviewees expanded on these reasons for providing home visits:

We have a frail lady with Chronic Obstructive Pulmonary Disease who lives 12km away. She has no family, so her doctor gets us to go up there once per month, check basic assessment of how she is coping at home, oxygen, blood pressure, weight, eating, food in fridge. He [doctor] is really appreciative as she won't come to doctor as it takes too much out of her pension for the taxi.

Doctors, a few doctors have really taken hold of it, some doctors ask us [practice nurses] to visit their vulnerable patients once per month to check up on them, to extend time in own home and prevent them going to a nursing home

Where one of our patients is not coping – they're not bad enough for hospital, but sick enough that they need an intervention; the practice nurse does a home visit [GP].

The visits are beneficial for the elderly people in our community. There have been some younger people post-operatively who live on own and have no one to help them. They might be sent home from hospital, their dressing not changed – we [practice nurses] can duck up and reassure them and change the dressing. They might be in lots of pain but can't get to pharmacy or doctor. From their home we can call doctor, who can fax a script to the pharmacy and the pharmacist can drop off the meds to the person at home.

It's an extra really handy thing that we [practice nurses] can do. It does add a whole extra level of care. It saves ambo call outs and unnecessary presentations to GP or emergency department from

elderly people who might need a little extra reassurance. Just checking that their blood pressure is OK, oxygen is OK, to reduce anxiety. Often they will turn up here thinking they are having a heart attack, but they are just panicking and need reassurance. If we can do this at home before it gets to crisis point it is so much better for everyone.

4.1.3 Recent Hospitalisation

A small percentage of patients (17%) had had a recent hospitalisation. For the majority of these patients the reason for the home visit related directly to this hospitalisation (Table 3).

Table 3: Recent Hospitalisation (n = 419)

Was the patient recently discharged from hospital?	**Percent of Home Visits**
No	83%
Yes	17%
Was this home visit related to this recent hospitalisation?	
Yes	13%

4.1.4 Follow-up care to the home visit

Following the home visit a subsequent visit from the PN was required in just over half of all cases; 20% of patients required a review by their GP; 16% required no further treatment; and 15% were referred to other services (Table 4).

Table 4: What follow up care was required after home visit? (n = 419)

Care Required:	***% of Home Visits***
Another home visit by PN	53%
Patient requiring review by GP	20%
No further treatment was required	16%
Patient requiring referral to others	15%
* 5% required GP review and referral to another service	
Patient found deceased at home	1%
Types of services patients were referred to:	
Other health professional (including medical specialists and AHP)	13%
Community Nursing	2%
Home support services	1%

4.1.5 Need to contact the GP during the home visit

For the majority of home visits the PN did not need to contact the GP (68%). When they did need to the contact the doctor it was predominantly to obtain a medication prescription or arrange for pathology tests (65%). In other cases the contact was to arrange follow up appointments, predominantly with other providers such as community nursing and home support, or to discuss the plan for the patient (Table 5).

Table 5: Practice Nurse contact with GP (n = 420)

Did the PN contact the GP during the home visit?	***Percentage of Home Visits***
No	68%
Yes	32%
Reasons for contacting GP	
Obtain medication / pathology order	65%
Arrange follow up appointment	15%
Other reasons	19%

4.1.6 Most appropriate type of consultation

The PNs deemed that a home visit was the most appropriate type of consultation for the patient in 97% of cases, and that 90% of the patients would have suffered had they been required to attend a practice due to frailty (27%), mobility difficulties (20%), because the patient was receiving palliative care or life support (17%), or had transport problems (16%) (Table 6).

Table 6: Was home visit the most appropriate type of care for this patient? (n=420)

Was home visit the most appropriate type of consultation?	*% of Home Visits*
Yes	97%
No	3%
Would this patient have suffered if they had to attend the practice?	
No	10%
Yes	90%
Reasons why the patient would have suffered:	
Frailty	27%
Mobility problems affecting the patient	20%
Patient Palliative or on Life Support	17%
Transport problems	16%
Does not attend scheduled appointments at practice	7%
Lives in aged care facility	4%
Required home assessment	3%
Other	7%

4.1.7 Preventing Emergency Department Visits

The PNs deemed that 23% of the PNHVs prevented an emergency visit, while 3% of home visits resulted in a referral to the emergency department (Table 7). While an attempt was made to determine the rates of emergency department visits during the two weeks after the home visit, this information was not available.

Table 7: Use of LHD Hospital Emergency Services: (n= 420)

Use of LHD Hospital Emergency Services:	% of Home Visits
Home visit prevented patient from attending emergency	23%
Reason for home visit would not have caused patient to attended emergency	77%
Home visit resulted in a referral to emergency visit	3%
Did the patient attend emergency in the 2 weeks following the home visit? (n=205)	
Yes	3%
No	46%
Don't know	51%

4.1.8 Safety concerns for the practice nurse

Only 3% of the visits created a safety concern for the PN. The main reason provided was that the other family members did not want the nurse to come into the home. Other issues included concerns about parking at the patient's home, and patients' dogs, however these were mostly referred to as 'friendly' or 'not a problem'.

4.1.9 Trigger for the home visit

The majority of visits (58%), were instigated by the GP for a reason other than their lack of availability (Table 8), as highlighted in the quotes below.

The appointments were instigated more by the GP and the patient. It might be a phone call from the patient who rings and says they can't come in to the doctor, we check with the GP who asks us to go and collect a urine sample etc., or the GP will say to the practice nurse, when you are doing home visits could you also pop in on these people to do an INR?

The nurse or the doctor determines who is seen. Normally the doctor or nurse makes the referral. Sometimes elderly patients phone in. They're not sick enough to call an ambulance. We might have a very old patient needing wound [dressings] who isn't well enough to get in, then they see a nurse.

Table 8: What was the trigger for the home visit? (n=345)

GP initiated (not due to lack of availability)	58%
PN initiated	10%
Patient / family/ care giver initiated	10%
Practice Manager initiated	2%
Lack of availability of GP	1%
Missing data	18%

4.1.10 Funding sources

The majority of services provided by this trial were not eligible for funded home visits from another source (79%), and were unlikely to have been delivered by nurses funded by the Practice Nurse Incentive Program. 21% of visits that were eligible for funding from other sources, including DVA (11%), community nursing (4%) and others (6%). Home visits that occurred when there were other funding sources available were provided to:

- cover services that were unavailable due to illness or non-availability of community, palliative care, DVA, or aboriginal community nursing services;
- cover the period of time prior to these services being able to add the patient to their respective case load; or
- provide services that community or DVA nurses could not do e.g. provide certain medications, equipment (e.g. Holter monitor), or treatments.

Health assessments have not been included at all but at one practice the nurse doing the home visits is predominantly employed for doing health assessments in the >75 age group and finds these PNHVs very helpful when an elderly patient is not due for another health assessment but has an exacerbation of a condition, or fall or whatever and this allows her an alternative way of going out to check on patient.

Accessing funding for the PNHV project created an additional burden of administration on practices due to the high levels of reporting requirements.

4.1.11 Length of time of the home visit

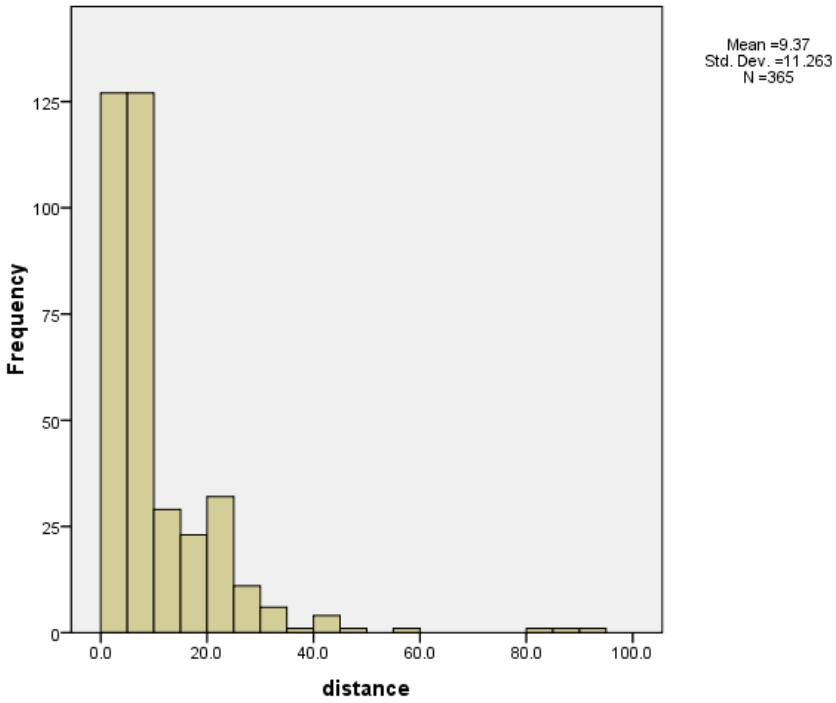
Approximately 50% of all home visits took between 30 and 60 minutes to complete including travel time (Table 9), and occurred less than 10 kms from the GP practice. The average distance travelled over 365 home visits was 9.4km with the range 0.5 – 94km. Figure 3 shows the

distribution of travel distances for the home visits. In the majority of home visits (62%), the PN saw only one patient during their trip out from the practice (range 1 – 6).

Table 9: Time required for Home Visit (n=420)

Number of minutes of practice nurse time	*Number of home visits with consultation time*	*Percentage of home visits*	*Number of home visits with travel time*	*Percentage of home visits*	*Number of home visits with total time out of practice*	*Percentage of home visits*
< 30 minutes	224	58%	377	90%	140	32%
30 – 60 minutes	151	36%	38	9%	193	46%
> 60 minutes	24	6%	3	1%	86	21%

Figure 3: Histogram of Distance travelled (Distance = Kilometres)



4.2 PATIENT SATISFACTION SURVEY

Patient satisfaction surveys were received from 66 patients. Of these, 20 provided additional written comments. No negative comments were received. The patients who made comments were happy with the visit, many commented on how it saved them a visit to emergency, and gave

them confidence so they could stay living in their own home, and wanted the program to continue.

I was very impressed by the visit as I was not expecting it. The fact that the doctor's surgery responded so efficiently has given me and my family increased confidence in my remaining in my home.

My husband is very sick, it is a great help to me by the nurse coming here, as my health is not too good also. They are wonderful and caring and do as much as they can to help.

I was very happy with the visit from the nurse. I do not drive and have to depend on family or neighbours to take me to the GP. I find it difficult to use public transport as there is a four hour wait after my visit for the next bus. I feel much more confident about my health issues now. Thank you for the opportunity of being able to have the nurse visit me at home.

The home visits are a great help to me. I'd like to stay in my home for as long as I can (I hate the idea of a nursing home) and feel that the nurse call will come to mean a great deal to me. I would definitely want more home visits.

I was really impressed with the home visit service; it saved me from having to go to the emergency at the hospital and was able to stay at home instead of being admitted to hospital. I think this is a great initiative especially for the elderly and disabled to be able to be kept at home.

I was so happy to see the nurse at my home as I was very sick, vomiting etc., and she provided the care I needed so I didn't have to attend the emergency at the hospital. The nurse followed up to see how I was later so I find this service very valuable, especially as I live rural.

Nurse [name removed]'s prompt visit on hearing of my 4 day illness saved an emergency visit to the hospital. The continuity of care of the nurse and doctor helped me to stay at home.

The patients (n=62) identified the reason for the home visit as predominantly for a general check-up (42%); for wound care (24%); because they were unable to attend the practice (21%); for an INR check (6%) and for other reasons (7%).

Overall the patients were highly satisfied with the service, with more than 70% of respondents strongly agreeing with statements that they were happy with the quality of the home visit, the quality of the care received, the skill and professionalism of the nurse, the information received and the duration of the visit. Ninety-eight percent (98%) of participants agreed or strongly agreed with the statement "Overall I was satisfied with the care provided during the home visit". Participants were largely positive about their involvement in decision making, the planning of their care, the timeliness of the visit, and the encouragement provided by the nurse, with between 60 – 70% of participants strongly agreeing with statements in support of these approaches. No negative responses were provided about the service (Table 10).

Table 10: Patient Experience Survey

	Percentage of Patients' Responses			
	Uncertain	**Agree**	**Strongly Agree**	**Not Applicable**
The nurse was understanding of my personal health concerns		23	76	
The nurse gave me encouragement in regard to my health problem	1.5	24	68	2
I felt comfortable to ask the nurse questions		26	74	
My questions were answered in an individual way		27	73	
I was included in the decision making	4.5	23	68	3
I was included in the planning of my care	3	27	64	3
The treatments / advice provided by the nurse were of high quality	2	26	73	
I was able to obtain the home visit when I needed it	5	29	62	5
The nurse spent enough time with me	2	23	76	
I was confident with the nurse's skills	2	24	73	2
The nurse was very professional		24	76	
Overall I was satisfied with the care provided during the home visit	2	23	76	
The care I received from the nurse was of high quality	2	22	77	
I would want another home visit from the nurse	2	23	71	5
This home visit prevented me from having to visit my GP	8	20	70	2

As a result of the visit by the PN, the majority of patients reported that they were better or much better able to understand their illness (54%); cope with their illness (61%); maintain themselves at home (58%); help themselves (62%); and were more confident about their health (50%) (Table11).

Table 11: Patient Enablement

As a result of the home visit by the nurse do you feel you are:

	Percentage of Patients' Responses			
	Same or Less	Better	Much Better	Not Applicable
Able to understand your illness	18	24	30	17
Able to cope with your illness	23	26	35	7
Able to maintain yourself at home	14	23	35	14
	Same or Less	More	Much More	Not Applicable
Confident about your health	32	21	29	6
Able to help yourself	29	23	29	9

4.3 QUALITATIVE FINDINGS

4.3.1 Facilitators and barriers to the home visits

Communication with and engagement of general practices

Communication regarding the trial to the general practices, within the practices, and to patients appears to have been an important facilitator of effective use of the PNHV role.

[The project] seems to be better used in those practices where there has been good communication from the start, with the information about the project being shared with all practice staff from the reception staff receiving phone calls from patients or concerned family members through to practice managers, nurses and GPs.

There were several barriers to implementation of the PNHV project relating to the level of engagement by GPs. In some cases, there was a lack of GP awareness of the service; a lack of understanding of the value of the service; or lack of triggers or reminders for the GP to use the service. Some queried the added value of the PNHV program, rather than patients visiting their GP. The importance of peer feedback to 'sell' the value of the project to other GPs was identified by one participant.

Not sure what program is actually doing or contributing – INR blood test for blood thinning, rather than the patient going to a doctor to get this done.

With both projects [co-location and the PNHV trial] – the GPs and the practice nurses need to embrace it more. Even the reception staff. There is a need for more triggers. The doctor has to remember, it is not in the forefront of their mind. There were so many times that someone like [nurse] would do this herself. She just popped out to see them. The GPs do this too. This is just a change thing.

If GPs can see the value of these types of integration projects, they'll be more likely to use them. They're more likely to listen to GPs from other practices where it has worked. Peer feedback.

Ease of access

The PNHV model was perceived by respondents to be easy to access by both GPs and patients. The lack of paperwork and responsiveness of the PNs was valued by the participants. Additionally, the availability of funding associated with the home visit seemed to encourage flexibility by the practice staff; they were willing to see patients under the guise of the project, even if it was not on their allocated day for home visits.

The practice nurse home visit service was easy to access. The nurses were quite flexible. We could just talk to them. There was lots of flexibility, no paperwork. It was always very timely. Patients were always seen within a few days.

It is quite easy. A visit can be readily organised. We have good communication between the nurses and doctors and can arrange a visit on same day as it is asked for.

For patients who are within a 5 km radius, if someone really needs us, we can duck out even if it's not a nominated project day.

However, one practice withdrew from the trial because of geographic barriers to accessing services and remote populations.

Unfortunately because we are so rural and our patients live in a 40km radius I don't think the financial amount covers enough of a component of our demographic for us to be involved. Most of our patients live 20min to half an hour away, considering we have to pay our nurse for her travel time as well as visit time, this would not cover even her wages let alone travel and overheads. There would only be a small number of patients living close by who could benefit, and living close by means access is not as much of an issue.

One practice commented that by using their own practice nurse, they received instant feedback on their patient which could be entered straight into the clinic notes. Whereas to use the community nurse, there was often a delay associated with the referral process to service and then a delay again receiving communication back if at all.

Variety and flexibility of service provision

While all practices and the majority of patients in this trial appeared to have had some previous access to home visits, the advantage of this model was its flexibility and the breadth of services that were able to be provided in comparison to the existing approaches. In particular, it was seen to be of high value for patients who need routine checks that do require a GP visit.

We currently provide home visits for specific purposes, but this project is a lot more varied. We can only offer over 75 year health checks once per year.

This program much more varied duties but easy to incorporate in our current practice.

Addressing an unmet need in the community

Despite the provision of existing home visiting nursing services, it was evident that this model addressed an unmet gap. In some cases, it meant that the practice received reimbursement for a service that they normally provide but for which they do not receive direct payment. In other cases, it increased the accessibility of the service to patients who would normally experience difficulty due to the cost of transport.

Elderly people have to pay out of pension just to get here – we had no idea what a great need there was for it.

Lots of elderly people find it difficult to come into town. They can't drive anymore and rely on taxis.

Helps to prevent complications, and numerous ambo callouts; we have several people call ambo as it is cheaper than a taxi – save a lot in emergency department presentations.

I think it's a great service. The PNHV – in [region] is very good. It's great to be able to send a nurse out – if they do this, they don't get paid normally. They get some payment through the project.

Duplication of existing services

Despite meeting a gap in service provision, some also perceived that the PNHV project duplicated and threatened existing services, and the additional added value was unclear.

[LHD] offers RN [registered nurse] home services for conditions such as wounds, meds management – [it is] HACS [Home and Community services] funded; provides services in community, make sure all RNs are fully protected by OH&S procedures while on house visits. Practice nurse home visiting project – seems to be doing essentially, doing the same thing – but under a different model of care, funded by Medicare Locals. Given the environment … funding might be taken from [the LHD]. This program is almost undermining what [the LHD] do.

Project management support

Project management support was provided by NCML which helped practices address the administrative requirements associated with participating in the trial and the evaluation.

We were introduced [to the PNHV trial] through [project officer]. She brought out the folders, which were very well set out – complete program details, explaining the data searches, what needed to be sent back, the flow chart etc. They helped ID patients who need HV for a nurse.

Short term funding

As with many pilot projects, the risk of the funding ceasing and the subsequent removal a short-term service provided to patients was seen as a barrier to involvement.

Patients we go to see regularly, the 5 min INR, if the project ends and we can't do home visits, a lot of patients will be disappointed, will have to buy taxis again every week to have their INR checks

Four GPs in the area are in project out of about 400. It's difficult to see how it's going to work unless you've got full buy in from every GP. Are they going to hire practice nurses to provide a service that they don't get paid for?

Confusion over funding of services

The various potential sources of funding for PNHVs created some confusion amongst practices when it came to billing for the services.

It has transpired that five of the eight visits they originally claimed were not eligible. This is because they were planned visits to conduct Health Assessments under the Medicare Health Assessment item

number. The remaining three visits will be included in the data collection and I now have a revised invoice to pay for these three visits.

4.3.2 Administrative implications

There was little evidence of formalised changes to administrative structures to accommodate the PNHV project. Respondents acknowledged that the PHNV project promoted more conversations between GPs and nurses around patients and around the follow-up of patients and it was perceived that this shared focus would improve the patient experience. However, the majority of communication between the nurses and GPs appeared to be informal and unstructured. This informality could be attributed to the fact that in many cases, the PNHV was an extension of an existing PN role or function. There was little evidence of wider systems thinking or awareness arising from this project.

We have a large practice with nine doctors. It might be a conversation in tea room or might be more formal, nurses do it anyway as a free service for the over 75s and DVAs, so it is easy to incorporate assessing others.

There were no reported concerns about documenting the home visits by the PN.

Nurses can update the patient file. They have a laptop and can access the patient notes straight away. They will also have verbal chat with doctor on their return from the home visit.

While there were no reported changes to the formal communication or information sharing structures between individuals and organisations, with the exception of the formal reporting requirements of the PNHV trial itself, the 'reach' of NCML project officers into the general practices suggests the potential to broker change from outside the organisations.

4.3.3 Sustainability

Participants were asked their views regarding the sustainability and ongoing implementation of the role.

Need for targeted needs assessment of PNHV services

Participants identified that, given the diversity of home visiting services that were already available across the region, it was important to identify where the service is most needed and determine the optimum way to provide it. This was to avoid duplication of existing services, to ensure that the services are allocated efficiently and effectively.

We need a gap analysis of exactly what is needed, then try to fill the gap, rather than come in with a new service in parallel to an existing service, seems like a lot of overlap.

If it has a patient-centred focussed, then this model can work. Funding is the issue, are you doubling up services? Are you taking away from services that are actually funded to do the same thing? Are you double dipping? What does the patient want, in the end? It's about transfer of care, not discharge of care, it's about proper clinical hand over.

Recognition of different practice requirements

Not all practices had the same capacity to support and deliver home visits by PNs. For instance, smaller practices suggested that they did not have the capacity to release their sole PN to do home visits outside allocated hours. Similarly, different patient demographics placed varying demands on practices, which could necessarily be easily accommodated. There was a suggestion that there may be benefits of smaller practices achieving economies of scale through the sharing of a PN to undertake home visits.

Interestingly the solo GP practice is actually the largest user of the PNHV service - consistently doing 10 or more home visits per month and the largest 14 GP practice only does one to two visits per month. So it does not seem to be related at all to practice size but rather patient load and demographic and availability of practice nurse for visiting.

The practice had never really been able to envisage how they would use the trial. The reason for this is that they are a comparatively small practice (3 doctors at the most) with one RN on staff. They have a practice nurse one day a week to do home visits to conduct the health assessments and they can ask her to do a home visit under our trial if a need emerges on the day she is working for them. Outside of this, however, they do not have the capacity to release their one RN from the practice on any other occasion to do a home visit. If a patient rings and they cannot reassure them on the phone or they have any doubt as to the person's condition they advise them to ring an ambulance and present to ED [emergency department].

If the practice had the nursing resources to send someone on a home visit as per the trial, the practice manager believes that this would be a very valuable thing and would probably prevent a good number of presentations by their patients at ED [Emergency Department].

I asked how it could work in a perfect world. The practice manager suggested the possibility of a home visiting nurse shared by […] multiple practices, who was available each day from 8.30 to 1pm who could take requests from multiple practices after people ring first thing in the morning and respond to patients that are not in a life threatening situation but who cannot come to the clinic and who are triaged as having an immediate need.

Finally all of the practices involved were already conducting home visits at some level (often not able to be charged for) so this model allowed them to expand their current service and availability.

5 DISCUSSION

5.1 KEY FINDINGS

The findings from this trial suggest that home visits from a PN are a highly valuable adjunct to GP-based primary care. While most patients and practices had previous experience of receiving or providing PNHVs, this project raised the profile of these home visits. It increased the systemic awareness of the role of both home visits and the PN; however more research, and a longer time frame is needed to determine whether PNHV makes significant difference beyond the services that were already available.

In undertaking this evaluation we tested the following propositions, which were based on the project goals and assumptions:

Home visits by practice nurses will enhance the provision of care by:	**Findings**
1. Providing patients with more accessible and appropriate services by:	
Providing a more convenient service that will either prevent a lack of care or the unnecessary use of acute care services (e.g. emergency visits).	Feedback from the trial suggested that approximately 23% of home visits may have prevented an emergency admission. Doctors use the PNHV service to increase the ability of the patient to stay living at home and avoid a nursing home admission.
2. Facilitating more comprehensive care by:	
Providing follow up and review of patients previously seen in the practice.	There is evidence that GPs refer their patients to the PN if they are aware that they are unable to attend the practice.
Providing assessment, and collaborative management, of acute conditions in patients who have chronic disease conditions and are known to the practice.	Several (15%) of the referrals to the PNHV were for a general check-up (38%), wound management (19%) and INR (warfarin) monitoring (15%).
Provide assessment of the home environment and social factors that impact on a patient's health and ability to cope at home.	Qualitative feedback suggests that the health care providers were better able to understand the patient's home context and target appropriate recommendations for that patient.
3. Developing service processes that:	
Support more collaborative and multi-disciplinary integration of care (e.g. practitioner communication, shared care between nursing staff and GPs).	There was no evidence of formal structures to support better primary care integration between nurses and GPs, however informal communication about the patient improved. In many cases, the PNHV replaced a pre-existing service provided by the general practice or the LHD.
Facilitate reflection on the effectiveness of this approach to drive improvements.	There is little evidence of a wider systems view or quality improvement impact of this project.
Facilitate reflection on the impact of organisational culture on service processes.	There was little evidence that practitioners consider the impact of organizational culture on service processes.
Facilitate uptake and adaptation of the model in other contexts.	There was no evidence of translation of this approach into other contexts; however there were suggestions of ways to scale this approach so that it would be accessible across a wider number of practices.
Enhanced access and provision of care will lead to:	
A positive patient experience (satisfaction and expectations).	98% of participants agreed or strongly agreed with the statement "Overall I was satisfied with the care provided during the home visit".
More comprehensive delivery of primary health care in the community.	While patients were satisfied with the service they received there was not means to determine if it was a more comprehensive delivery of primary health care.
Increased staff satisfaction (nursing and general practice staff).	This was not quantified, but all staff interviewed expressed satisfaction with this service.
More efficient use of staff and staff skills.	Most of the home visits provided by the PNHV trial appear to have been appropriately provided by the nurse, and it is likely that if these visits occurred in the GP practice they would not have been an efficient use of GP time. Being able to access the GP during the visit streamlined the intervention.

5.2 IMPLICATIONS FOR PRACTICE

Appropriate use of the PNs depended on the GPs being aware of the services on offer and engaging appropriately with those services. GPs valued the access to in-house practice nursing services because of the immediacy of access and benefits brought by co-location, including communication and record sharing. However, the fact that these services were seen to overlap with existing service provision suggests a lack of tools to support regional service navigation. There is no clear understanding of the types of patients who require and access PNHV services.

5.3 IMPLICATIONS FOR POLICY

The high rates of chronic disease in the community and relatively low cost of providing PN care in comparison to GP care suggests that the use of home visits could be made more widely available people who have difficulty accessing their GP. The funding models for these services mean that they are currently not as accessible as they could be to the wider population who may benefit from these services. Funding models and eligibility criteria need to be reconsidered to increase access to non-medical primary care services for patients who could benefit from these services.

5.4 STUDY LIMITATIONS

This is a small scale project in terms of the number of patients and duration. We were unable to show the impact of the study on emergency visits or hospital admissions or real health outcome events. The evaluation was largely limited to an examination of the processes of service delivery.

The main sources of data for this project were derived from the PN which had the potential to introduce bias in the reporting.

6 CONCLUSIONS

The findings suggest that the provision of home nursing services supports the goals of the Patient-Centred Medical Home of providing care that 'wraps around' the patient. The provision of home nursing services provided care to patients who would otherwise be unable to travel to see a GP; facilitated a more appropriate level of service when a GP appointment was not necessary; and provided this service in a more timely and accessible way. Providing the PNHV service from the general practice provided the benefit of allowing the patients' clinical records to be easily be updated, medication(s) changed, and appropriate diagnostic tests ordered.

What is unclear from this study is where the onus of responsibility of nurse home visiting services lies. Around one fifth of PHNV services were eligible for funding from other provider. In this study, the PNHV service was substituted for other services because it was more timely or

accessible than the existing service. In one jurisdiction, the PNHV service was clearly seen to threaten and duplicate existing community nursing service provision; however in others it appeared to meet an unmet need for services.

The published research evidence supports the provision of home-based support to improve patient outcomes and reduce health service costs (emergency admissions). There is clearly a need for community-based nursing services. However currently there is not a clear and equitable system for reimbursement for all patients, not all practices have the capacity to support a PN to perform home visits, and there appears to be a lack of clarity about the boundaries between existing services (such as community nurses provided by the LHDs) and the PNHV services. Criteria need to be developed to help practices determine the most appropriate way to allocate the home visiting nursing resource amongst their patients.

7 RECOMMENDATIONS

Recommendation 1: That further work is conducted to identify the specific service gaps and need for a nurse home visiting service across the MNC and NNSW LHDs. This scoping needs to capture existing home-based nursing provision, eligibility criteria, service responsiveness, accessibility and the referral and communication processes between the GP and the service.

Recommendation 2: To examine the role of a Primary Health Network to help overcome the barriers to existing services, including mapping of services, awareness of services and the timely access to services

Recommendation 3: To identify the patient groups for whom the visits were most used and identify how these people could better have their needs met. These are people with a health related need whose requirements are not adequately serviced.

Recommendation 4: To explore the system level responses that can be used to support the navigation of the existing services and resources (such as Health Pathways).

Recommendation 5: That if there is widened access to the provision of PNHV services as a way to support patients in primary health care, prevent avoidable hospital admissions, and enhance horizontal integration of primary health care services across the region, then consideration must be given to equity of access across the region.

Recommendation 6: If the PNHV service is to be continued, there is a need to explore sustainable funding models to support the service.

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9 APPENDICES

Appendix A

Practice Nurse Home Visit Trial

Practice Name: _____ ***Date of Home Visit:*** _____

Patient Name: _____ ***Phone Number:*** _____

Evaluation		***Comments***
Did you explain to the patient that this is a pilot project with an external evaluation?	*Yes* *No*	
Does the patient consent to have their home visit data included in the external evaluation of the project?	*Yes* *No*	
Did you provide the patient with the information letter / survey / envelope?	*Package left with patient* *Yes* *No*	
Did you tell them they will receive a reminder phone call about the survey in approximately 1 month?	*Yes* *No*	

NCML staff - Remove this page and keep.

Return only Pages 3 and 4 to researchers.

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Practice Nurse Data from Practice Nurse Home Visit Trial

Date of Visit: **Practice Name:**

Please add any comments as necessary in the boxes

Year of Birth		
Gender	Male Female	
Clinical		
Reason for Home visit: Treatment provided:		
Outcomes/Impacts from visit: What benefits did the patient receive from the visit?		
Is further treatment/referral required? - Another home visit - GP review - Referral to other services	*Yes* *No* *Yes* *No* *Yes* *No*	*Please specify to what other services referrals were recommended.*
Did you (nurse) have to contact the GP during the visit? If so why?	*Yes* *No*	*Why?*
Has the patient recently been discharged from hospital?	*Yes* *Date* *No*	
Was this home visit related to this hospitalisation?	*Yes* *No*	
Did this home visit meet a previously unmet need?	*Yes* *No*	*What was this need?*
Have there been previous home visits?	*Yes* *No*	*Reasons:*
Would the patient have suffered if they had to attend the practice as opposed to receiving a home visit?	*Yes* *No*	*Describe how:*
Was the home visit the most appropriate type of consultation for this patient?	*Yes* *No*	
Did this home visit prevent an emergency visit?	*Yes* *No*	
Did this home visit result in a referral to emergency?	*Yes* *No*	
Post Home Visit		

Has this patient had any emergency visits in the 2 weeks <u>after</u> the home visit? *Please check patient records for any discharge summaries received from hospital.*	*Yes* *No*	*Please list reasons and if emergency visit was related to same concern as home visit:*

Safety Concerns		
Are there any hazards/safety issues at home visit site that the visiting nurse needs to be aware of e.g. Dogs, home situation, parking, etc.	*Yes* *No*	*Please list hazards / safety issues:*
Operational / Financial Issues		
How was the home visit triggered?	*GP initiated request (not due to availability)* *Lack of availability of GP* *Practice Manager referral* *Practice Nurse initiated* *Patient initiated request* *Other*	*Other (please list):*
Is the patient eligible for home visits under DVA / public community nursing / or from any other scheme?	*Yes* *No*	*Please list which schemes:*
Is the patient aware that they are receiving a home visit as part of the NCML pilot project?	*Yes* *No*	
Total time of home visit: Time nurse was out of practice Duration of consult Duration of travel (include time in both directions) Distance travelled	 *Start time:* *Finish time:* *Kilometres*	*Please circle* *<30 mins/ 30-60 mins / >60 mins* *<30 mins/30-60 mins/ >60 mins* *<30 mins/30-60 mins/ >60 mins*
Was more than one patient seen on this trip? If so how many?	*Yes* *No* *No. of patients:*	

Other comments:

_____

_____

_____

Appendix B

PATIENT ENABLEMENT AND SATISFACTION SURVEY

Thank you for answering this anonymous survey which will not identify you personally in any way. The questions will provide important information about your experience with the nurse home visit pilot being conducted by your general practice.

How to fill in this survey

Most of the questions can be answered by placing a tick in the box next to the answer that best applies. **Please tick only one answer** for each question unless otherwise directed.

Please return your completed survey in the reply-paid envelope supplied.

If you have any questions about this survey you can contact:

Alison Roots on alison.roots@scu.edu.au or 0417667676.

1. Reason for your nurse home visit:

2. Patient experience:

Please respond to the following statements by ticking one box on each line.

	Strongly Disagree	Disagree	Uncertain	Agree	Strongly Agree	Not Applicable
a. The nurse was understanding of my personal health concerns						
b. The nurse gave me encouragement in regard to my health problem						
c. I felt comfortable to ask the nurse questions						
d. My questions were answered in an individual way						
e. I was included in the decision making						
f. I was included in the planning of my care						
g. The treatments / advice provided by the nurse were of high quality						
h. I was able to obtain the home visit when I needed it						
i. The nurse spent enough time with me						
j. I was confident with the nurse's skills						
k. The nurse was very professional						
l. Overall I was satisfied with the care provided during the home visit						
m. The care I received from the nurse was of high quality						
n. I would want another home visit from the nurse.						

3. Patient enablement:

As a result of the home visit by the nurse do you feel you are:

	Same or Less	Better	Much better	Not Applicable
a. Able to understand your illness				
b. Able to cope with your illness				
c. Able to maintain yourself at home				
	Same or Less	**More**	**Much more**	**Not Applicable**
d. Confident about your health				
e. Able to help yourself				

4. Do you have any comments about nurses from the general practice doing home visits (e.g. did you have to wait too long for the visit, were you comfortable with the nurse coming to your home, did you think the nurse had sufficient education / knowledge to provide you care in your home, did the visit prevent you from having to visit an emergency department, would you want another home visit).

_____

_____

_____

_____

_____

_____

THANK YOU FOR TAKING THE TIME TO COMPLETE THIS SURVEY

This survey has been adapted from the Patient Enablement and Satisfaction Survey developed as a collaborative project between the Australian Primary Health Care Research Institute, Australian National University, and the Australian Medicare Local Alliance, 2012.

THIS RESOURCE WAS FUNDED BY THE AUSTRALIAN GOVERNMENT

Appendix C

Semi-structured interview questions for Stakeholders – GP practice staff

The following questions relate to your views on the practice nurse home visit trial.

1. Background: Could you please describe briefly your role or level of involvement in this project?

2. Drivers for involvement: Please start by describing *how you became involved* in this project (Prompts: reasons for involvement; how you were recruited)

3. Implementation of the position: Please describe the way that the home visits were implemented in your practice(e.g. who made the decision for a patient to be seen by the PN at home)

4. Barriers and facilitators to implementation: were there problems / difficulties / benefits because of the implementation of this new type of visit for the PN, office staff or GP.

5. Outputs and outcomes (practice): Did the implementation the home visits go as expected for the practice? If no, why not and what were the problems? (E.g. did the visit take the PN away from the clinic too much, were there problems created because of thehome visit?)

6. Outputs and outcomes (patients): What impacts do you think that this project has had for the patient? Have you had any feedback from patients? If so, could you provide an example please?

7. As a result of these visits do you think there is any increased integration between the practice and the LHD?

8. Outputs and outcomes: how has this role changed the way *you* work (if not answered above)?

9. Have there been any negative or unintended consequences as a result of implementing this new role?

10. Would you like to see this role / model continued (why / why not)? If so, what should be done differently to improve the benefits or impacts of the role?

11. If this role were to be continued? What should be done differently to improve the outcomes or benefits of the role?

12. Do you have any other comments you think may help our understanding of the outcomes or processes / outcomes of implementing the co-location initiative