NURSE PRACTITIONERS: DOES HOME VISITING IMPROVE OUTCOMES FOR PEOPLE LIVING WITH LONG-TERM CONDITIONS

Rebecca Laidlaw **Christine Mercer**

About the authors: *Rebecca Laidlaw, RN, ADN, master of nursing candidate, is a clinical nurse specialist in hepatology at Te Whatu Ora – Taranaki, New Plymouth.*

Christine Mercer, RN, BA(SocSci), MEd, PhD, FCNA, is an academic staff member at the Centre for Health and Social Practice, Wintec/Te Pūkenga, Hamilton, New Zealand. Her correspondence address is: Christine.mercer@wintec.ac.nz

Keywords
Nurse practitioner, home visiting, long-term conditions, health outcomes

Aim
THE AIM of this integrative review was to explore the potential for nurse practitioners in New Zealand to visit people diagnosed with long-term conditions in their own homes.

Background
Prevalent long-term conditions such as diabetes, hypertension, chronic respiratory diseases, dementias and chronic renal and liver diseases require complex and ongoing care (Ministry of Health [MoH], 2020; World Health Organization, 2016). This places pressure on the health-care system, as this group are high users of health and disability services (MoH, 2015). Furthermore, there are higher incidences of long-term conditions in lower socioeconomic areas, as well as in Māori and Pasifika populations and among people aged over 65 (MoH, 2015).

The health management of these patients in New Zealand is driven by primary care, led by general practitioners (GPs), with support from practice nurses and registered nurse prescribers (Minister of Health, 2016). However, front-line staffing shortages have led to unprecedented work pressures, especially in primary care (Minister of Health, 2016). One way of addressing a shortage of GPs is to provide primary care within a nursing model (Carryer & Adams, 2017).

The purpose of this integrative review was to evaluate whether home-visiting nurse practitioners could improve outcomes for people living with long-term conditions in New Zealand. This review may be of particular interest to health policymakers, GPs and nurse practitioners.

Method
The integrative review methodology for synthesis of evidence enables results of qualitative, quantitative and mixed methods nature to be drawn on to develop recommendations for best practice (Methley et al., 2014; Whittemore & Knafl, 2005). Electronic databases (Cumulative Index of Nursing and Allied Health Literature [CINAHL], PubMed, Science Direct, Joanna Briggs Institute [JBI], DynaMed, Gale, Mednar and Core and Google Scholar) were searched to obtain conceptual saturation – a concept derived by Thomas and Harden (2008). A total of 16 primary research studies met the inclusion criteria. Data analysis was inductive and followed Thomas and Harden's (2008) three stages for thematic synthesis.

Findings
Findings of the integrative review were developed into three themes that support nurse practitioner visits for people living with long-term conditions.

Theme 1: Reduced barriers to care
When health care is provided in the home of the patient, access to care is improved, reducing subsequent acute care or emergency department presentations (Buerhaus et al., 2018; Coppa et al., 2018; Jones, DeCherrie et al., 2017; DesRoches et al., 2017; Echeverry et al., 2015; Enguidanos et al., 2012; Ghimire et al., 2021; Hall et al., 2014; Smith et al., 2016; Takahashi et al., 2016; Trilla et al., 2018). Ghimire et al. (2021) report that where patients have a history of poor engagement with health services and non-adherence to prescribed plans of care, they improve their level of engagement following a single home visit from a multidisciplinary team including a nurse practitioner. Making an appointment in the patient's home can be the first step in creating a trusting and therapeutic healthcare provider/patient relationship (Takahashi et al., 2018). Important factors emerged about care delivery, including patients' perceptions that nurse practitioners are able to provide more holistic care than GPs (Lovink et al., 2018).

> *"There is a different consultation in a patient's house and although they have never said it, I think they [the GPs] perhaps feel a little uncomfortable with that type of consultation".*
> (Participant Hayley; Wells & Tolhurst, 2021, p. 790).

Nurse practitioners visiting patients at home, post-discharge from hospital, reduce preventable readmissions (Coppa et al., 2018; Echeverry et al., 2015; Hall et al., 2014; Jones, DeCherrie et al., 2017; Smith et al., 2016; Takahashi et al., 2016; Trilla et al., 2018). The outcome of a reduction in health care seeking due to timely nurse practitioner interventions is improved quality of life for patients and a reduction in health-care spending (Coppa et al., 2018; Echeverry et al., 2015; Hall et al., 2014). Barriers to care are perceived by patients as the cost of health-care services and a lack of access to transportation (Cram, 2014). A home visit from a nurse

practitioner can improve appointment attendance rates (Ghimire et al., 2021) by reducing barriers to care and building therapeutic relationships with patients in ways such as spending time and considering cultural and whānau needs.

Theme 2: Improved health and quality of life

Patients reported improved health and quality of life with home visits from a nurse practitioner. Reasons for this include improved health literacy, improved daily function (Takahashi et al., 2018), improved medication compliance (Ghimire et al., 2021) and decreased symptoms (Echeverry et al., 2015; Enguidanos et al., 2012). Barriers to self-efficacy are health literacy, access and support (Farley, 2019). When care is provided in the home, education can be based on the health practitioner's observations, such as what food is in the cupboards and where medications are sourced from and how they are stored (Takahashi et al., 2018). Home visits by nurse practitioners create an equitable service that changes the dynamic of power between the health-care professional and the patient. As one patient suggested,

> *"I think that I'm more relaxed in my own home, and I can think better".*
>
> (Patient 14; Takahashi et al., 2018, p. 20).

With improved health literacy comes improved self-efficacy. Patients receiving nurse practitioner home visits reported a 44 per cent improvement in physical function, 40 per cent reduction in symptom frequency, 54 per cent improvement in quality of life and 44 per cent overall improvement (Echeverry et al., 2015). Medication adherence improved by 36 per cent and self-efficacy improved after a home visit by a multidisciplinary team or nurse practitioner (Enguidanos et al., 2012; Ghimire et al., 2021). Empowering patients in the home to become more self-sufficient improves adherence to treatment plans.

Theme 3: Role ambiguity

While there is support for the nurse practitioner role from physicians and GPs (Jones et al., 2017; Jones, Ornstein et al., 2017, Takahashi et al., 2018), there continues to be a lack of understanding about the nurse practitioner scope of practice and level of capability and accountability (Bailey et al., 2006; Collins, 2019; Wells & Tolhurst, 2021). However, the attitude of physicians is generally positive, acknowledging the way nurse practitioners can work alongside GPs to enhance patient outcomes (Jones, DeCherrie et al., 2017; Jones, Ornstein et al., 2017, Takahashi et al., 2018). As one GP suggested,

> *"We tend to see them all as equal, but they do have different experiences and abilities".*
>
> (GP focus group participant; Collins, 2019, p. 6)

Although patients lack clarity about the nurse practitioner's role, they are generally accepting of them because, from the patient's perspective, they are receiving the care they need (Collins, 2019). Patients describe nurse practitioners as good listeners who are knowledgeable about their situation, help them fulfil their needs and goals and improve their quality of life (Takahashi et al., 2018). One nurse practitioner participant noted,

> *"Patients identify with what you are doing, not what you are saying".*
>
> (Advanced nurse practitioner interviewee; Collins, 2019, p. 6)

Role clarity for nurse practitioners and effective relationships within teams are pivotal to promoting teamwork in health care, which in turn enables high-quality patient care and increased patient engagement (Kilpatrick et al., 2021). Nurse practitioner visits also increase clinic attendance for patients who have low engagement with health services (Ghimire et al., 2021). When nurse practitioners support complex hospital discharges with home visits, this alleviates some of the pressures on primary, secondary and tertiary-care services while providing equitable care.

Discussion

The findings from this integrative review provide significant insight into how health-care practice in New Zealand could be tailored to meet the population's needs. Taking care to the home of patients is consistent with the New Zealand Health Strategy's "closer to home" theme (Minister of Health, 2016). Priority groups such as Māori, Pasifika, people of lower socioeconomic status and the elderly are more likely to be readmitted to hospital (MoH, 2015). Although long-term condition management in New Zealand is focused on primary care (Minister of Health, 2016), the findings of this review can also be applied to settings other than primary care. Home-visiting nurse practitioners have a place in secondary-care long-term condition management, in outreach services and in supporting discharge from hospital to home. Nurse practitioners are likely underutilised in New Zealand because of ambiguity about their potential contribution. Education is needed to improve knowledge about their potential contribution to managing long-term health conditions (Carryer & Adams, 2017).

Recommendations

Nurse practitioner home visits should be targeted towards priority populations in New Zealand including Māori and Pasifika, lower socioeconomic communities and those aged over 65, to reduce equity gaps.

A retrospective cohort study should be conducted to review health-care seeking activities for each of the priority populations, and compare this with acute-care presentations for the same groups.

The potential capability of nurse practitioners to improve outcomes for people living with long-term conditions should be communicated to policy-makers and funders of health services. Practice models also need to change to more fully encompass the diverse multidisciplinary roles and responsibilities of the health team.

Conclusion

The findings of this integrative review indicate that home visiting nurse practitioners improve outcomes for people living with long-term conditions. Health policy focus should include home-visiting nurse practitioner models of care for people with long-term conditions. The three themes identified would be useful to consider when incorporating home visits by nurse practitioners into the New Zealand health-care model.

References

Bailey, P., Jones, L., & Way, D. (2006). Family physician/nurse practitioner: Stories of collaboration. *Journal of Advanced Nursing, 53*(4), 381-391. https://doi.org/10.1111/j.1365-2648.2006.03734.x

Buerhaus, P., Perloff, J., Clarke, S., O'Reilly-Jacob, M., Zolotusky, G., &

DesRoches, C. M. (2018). Quality of Primary Care Provided to Medicare Beneficiaries by Nurse Practitioners and Physicians. *Medical Care, 56*(6), 484-490. https://doi.org/10.1097/MLR.0000000000000908

Carryer, J., & Adams, S. (2017). Nurse practitioners as a solution to transformative and sustainable health services in primary health care: a qualitative exploratory study. *Collegian, 24*(6), 525-31. https://doi.org/10.1016/j.colegn.2016.12.001

Collins, D. (2019). Assessing the effectiveness of advanced nurse practitioners undertaking home visits in an out of hours urgent primary care service in England. *Journal of Nursing Management, 27*(2), 450-458. https://doi.org/10.1111/jonm.12680

Coppa, D., Winchester, S. B., & Roberts, M. B. (2018). Home-based nurse practitioners demonstrate reductions in rehospitalizations and emergency department visits in a clinically complex patient population through an academic-clinical partnership. *Journal of the American Association of Nurse Practitioners, 30*(6), 335-343.
https://doi.org/10.1097/JXX.0000000000000060

Cram, F. (2014). *Improving Māori access to health care: Research report*. Katoa. https://www.moh.govt.nz/notebook/nbbooks.nsf/0/211DA45C5EA632 05CC257DD8007AE977/$file/Access_ResearchReport.pdf

DesRoches, C. M., Clarke, S., Perloff, J., O'Reilly-Jacob, M., & Buerhaus, P. (2017). The quality of primary care provided by nurse practitioners to vulnerable Medicare beneficiaries. *Nursing Outlook, 65*(6), 679-688. https://doi.org/10.1016/j.outlook.2017.06.007.

Echeverry, L. M., Lamb, K. V., & Miller, J. (2015). Impact of APN home visits in reducing healthcare costs and improving function in homebound heart failure. *Home Healthcare Now, 33*(10), 532-7. https://doi.org/10.1097/NHH.0000000000000304

Enguidanos, S., Gibbs, N., & Jamison, P. (2012). From hospital to home: A brief nurse practitioner intervention for vulnerable older adults. *Journal of Gerontological Nursing, 38*(3), 40-50. https://doi.org/10.3928/00989134-20120116-01

Farley, H. (2019). Promoting self-efficacy in patients with chronic disease beyond traditional education: A literature review. *Nursing Access, 7*(1), 30-41. https://doi.org/10.1002/nop2.382

Ghimire, A., Allison, R., Lichtemberg, Y., Vempilly, J. J., & Jain, V. V. (2021). A single home visit improves adherence and reduces healthcare utilization in patients with frequent exacerbations of severe asthma and COPD. *Respiratory Medicine: X, 3,* 1-4. https://doi.org/10.1016/j.yrmex.2021.100026

Hall, M. H., Esposito, R. A., Pekmezaris, R., Lesser, M., Morvaick, D., Jahn, L., Blenderman, R., Akerman, M., Nouryan, C., & Hartman, A. (2014). Cardiac surgery nurse practitioner home visits prevent coronary artery bypass graft readmissions. *Annals of Thoracic Surgery, 97*(5), 1488-1495. https://doi.org/10.1016/j.athoracsur.2013.12.049

Joanna Briggs Institute. (2011). *Joanna Briggs Institute reviewers' manual*. University of Adelaide. http://joannabriggs.org/assets/docs/sumari/ ReviewersManual-2011.pdf.

Jones, M. G., DeCherrie, L. V., Meah, Y. S., Hernandez, C. R., Lee, E. J., Skovran, D. M., Soriano, T. A., & Ornstein, K. A. (2017). Using nurse practitioner co-management to reduce hospitalizations and readmissions within a home-based primary care program. *Journal for Healthcare Quality, 39(*5), 249-258. https://doi.org/10.1097/JHQ.0000000000000059

Jones, M. G., Ornstein, K. A., Skovran, D. M., Soriano, T. A., & DeCherrie, L. V. (2017). Characterizing the high-risk homebound patients in need of nurse practitioner co-management. *Geriatric Nursing, 38*(3), 213-218. https://doi.org/10.1016/j.gerinurse.2016.10.013

Kilpatrick, K., Tchouaket, E., Fernandez, N., Jabbour, M., Dubois, C.-A., Paquette, L., Landry, V., Gauthier, N., & Beaulieu, M.-D. (2021). Patient and family views of team functioning in primary healthcare teams with nurse practitioners: A survey of patient-reported experience and outcomes. *BioMed Central Family Practice, 22*(1), 1–14. https://doi.org/10.1186/s12875-021-01406-y

Lovink, M. H., van Vught, A. J. A. H., Persoon, A., Schoonhoven, L., Koopmans, R. T. C. M., & Laurant, M. G. H. (2018). Skill mix change between general practitioners, nurse practitioners, physician assistants and nurses in primary healthcare for older people: A qualitative study. *BMC Family Practice, 19*(1), 1-9. https://doi.org/10.1186/s12875-018-0746-1

Methley, A. M., Campbell, S., Chew-Graham, C., McNally, R., & Cheraghi-Sohi, S. (2014). PICO, PICOS and SPIDER: A comparison study of specificity and sensitivity in three search tools for qualitative systematic reviews. *BioMed Central Health Services Research, 14,* 579. https://doi.org/10.1186/s12913-014-0579-0

Minister of Health. (2016). *New Zealand health strategy: Future direction*. Ministry of Health. https://www.health.govt.nz/system/files/documents/publications/new-zealand-health-strategy-futuredirection-2016-apr16.pdf

Ministry of Health. (2015). *Health and independence report 2015*. https://www.health.govt.nz/system/files/documents/publications/health-and-independence-report-2015-oct15.pdf

Ministry of Health. (2020). *Long-term conditions*. https://www.health.govt.nz/our-work/diseases-and-conditions/long-term-conditions

Smith, J., Pan, D., & Novelli, M. (2016). A nurse practitioner-led intervention to reduce hospital readmissions. *Journal for Nurse Practitioners,12*(5), 311-316. https://doi.org/10.1016/j.nurpra.2015.11.020

Takahashi, P. Y., Naessens, J. M., Peterson, S. M., Rahman, P. A., Shah, N. D., Finnie, D. M., Weymiller, A. J., Thorsteinsdottir, B., & Hanson, G. J. (2016). Short-term and long-term effectiveness of a post-hospital care transitions program in an older, medically complex population. *Healthcare, 4*(1), 30-35. https://doi.org/10.1016/j.hjdsi.2015.06.006

Takahashi, P. Y., Finnie, D. M., Quigg, S. M., Borkenhagen, L. S., Kumbamu, A., Kimeu, A. K., & Griffin, J. M. (2018). Understanding experiences of patients and family caregivers in the Mayo Clinic Care Transitions program: A qualitative study. *Clinical Interventions in Aging, 14,* 17–25. https://doi.org/10.2147/CIA.S183893

Thomas, J., & Harden. A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BioMed Central Medical Research Methodology, 8*(45). https://doi.org/10.1186/1471-2288-8-45

Trilla, F., DeCastro, T., Harrison, N., Mowry, D., Croke, D., Bicket, M., & Buechner, J. (2018). Nurse practitioner home-based primary care program improves patient outcomes. *Journal for Nurse Practitioners, 14*(9), 2018e185-e188. https://doi.org/10.1016/j.nurpra.2018.08.003

Wells, A., & Tolhurst, E. (2021). In-hours acute home visits by advanced nurse practitioners in primary care: a qualitative study. *British Journal of Nursing, 30*(13), 788-791. https://doi.org/10.12968/bjon.2021.30.13.788

Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing, 52*(5), 546–553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

World Health Organization. (2016). *Multimorbidity: A technical series on safer primary care*. https://apps.who.int/iris/bitstream/handle/10665/252275/9789241511650-eng.pdf