

The Impact of Home Care Nurse Staffing, Work Environment & Collaboration on Patient Outcomes

AHRQ Question:

- To what extent is the role of the patient's physician in supporting home-based nursing care addressed in the best practice literature, and what does best practice literature say about the role of the physician in supporting home-based nursing care?
- Is there variation in patient outcomes when the patient's physician is involved in supporting home-based nursing care?

Key Findings:

The lack of physician involvement in home care has been attributed to various factors including: poor remuneration, time inefficiency, medical liability, and lack of access to diagnostic equipment and support staff (Engelke et al., 1998; McWilliam et al., 2003).

Home care organizations as well as the Community Care Access Centres (CCACs) and Local Health Integration Networks (LHINs) should consider the following recommendations when developing and implementing strategies aimed at enhancing physician support of home-based care:

- ✓ Provide skills training and a standardized approach for home care nurses to improve their competency at effectively documenting and communicating relevant information about their patients to the physician (Brown et al., 2010; Markley & Winbery, 2008).
- ✓ Develop methods to facilitate information sharing and communication between all members of the healthcare team (Eloranta, 2010; Ruggiano et al., 2012).
- ✓ Consider incorporating technological innovation to improve information sharing between all members of the healthcare team (Eloranta, 2010).
- ✓ Advocate to incorporate more home care curriculum into medical education and continuing education, including curriculum about home care processes, current available services, CCAC services and the billing system (Oanadasan et al., 2004).
- ✓ Ontario should promote aggressive marketing to physicians to facilitate their awareness of funding available to them (Oandasan et al., 2004).
- ✓ Examine the benefits of adding the Nurse Practitioner role to the home care teams (McWilliam et al., 2003; Stewart et al., 2010).

Understanding the role of the physician in supporting home-based care is important to address the challenges in coordination of care, communication, and decision-making in home care. Research has demonstrated that home care delivery is often viewed as fragmented or “discoordinated” (van Walraven et al., 2010, p. 947), with patients receiving a range of services from multiple healthcare providers who rarely see each other face-to-face or have the opportunity to develop professional working relationships (Engelke et al., 1998; Fairchild, 2002). Nursing and allied health services provide direct primary care, while physicians are both physically and symbolically distant and often only available on an infrequent consultation basis, despite holding legal responsibility for their patients’ care (Engelke et al., 1998; Marrone, 2003). In 2002, the Romanow Report (Commission on the Future of Health Care in Canada) called for the establishment of formal linkages between primary care physicians and home care case management (Oandasan et al., 2004). To understand why this fragmentation exists and where exactly improvement is needed, it is necessary to explore physician involvement in home care with special attention addressed to palliative care and end-of-life care, current models of care, role clarity and the role of physicians in the home. The barriers and facilitators to nurse-physician communication must also be explored.

The methodology and search strategy used to answer this AHRQ are found in Appendix A.

Physician Involvement in Home Care

As patients with increasingly complex disease states are being cared for in the home, researchers are arguing that physicians need to assume a more active role in home care (Engelke et al., 1998). The lack of physician involvement in home care has been attributed to various factors including: poor remuneration, time inefficiency, medical liability, and lack of access to diagnostic equipment and support staff (Engelke et al., 1998; McWilliam et al., 2003). Family physicians consistently highlight the challenge of balancing the competing priorities of hospital, office, and home care [College of Family Physicians of Canada (CFPC), 2000]. Physicians also express their frustration with the home care system’s improper triaging of urgent referrals for services as identified by the physician, leading to delays in care, deterioration and subsequent preventable hospitalizations [Ontario Medical Association (OMA), 2014]. In addition, family physicians emphasize that limited research exists on patient outcomes, cost-effectiveness, services provided, technology, education and the quality and organization of home care delivery (CFPC, 2000).

Despite this, Canadian and international research demonstrates that increased involvement of family physicians in the care of patients in the home better enables physicians to prevent clinical problems and address urgent issues in a timely manner.

Furthermore, it has been shown that greater consistency of family physicians in caring for a patient at home improves overall quality of care (De Bock et al., 2010; Hennen, 1975; Mainous, et al., 2001; McWhinney et al, 1995; Smith et al., 1999). In a systematic review analyzing nine high quality studies, researchers demonstrated a significant association between increased continuity of care by physicians and decreased emergency department visits and hospitalizations (van Walraven et al., 2010). A Canadian study investigating the Integrating Physicians Services-In-The-Home (IPSITH) program, found that when compared to usual care, patients who were assigned to the IPSITH program had significantly fewer emergency department visits (3.7% versus 20.7%; $P = .002$). In addition, significant increases in levels of satisfaction ($P < .05$) among patients and their family members, physicians, and nurses were noted (Stewart et al., 2010). Adding a Nurse Practitioner to the care team facilitated the successful integration of physicians into home care (Stewart et al., 2010).

Physician Involvement in Palliative and End-of-Life Home Care

Physicians play an important role in supporting home-based nursing care, particularly for patients receiving palliative and end-of-life care (Almaawiy et al., 2014). The large majority of palliative patients identified the preference to be at home rather than in a hospital setting (Pype et al., 2013). However, only a small percentage (2.3%) of physicians deliver services in the home (Sairenji, Jetty, & Peterson, 2015). In the context of the growing need for palliative and end-of-life home care, past research has shown an association between an increase in family physician's involvement with a decrease in use of acute care services (Almaawiy et al., 2014). Potential barriers to physician involvement in palliative and end-of-life care included varying levels of knowledge, skills, expertise, communication, collaboration, organization and coordination of care, integrated care, and time for families (Groot, 2007; Pype et al., 2013).

In a Belgian study, palliative patients preferred care provided by general practitioners in collaboration with a specialized palliative home care team (Pype et al., 2013). This inter-professional approach was supported by general practitioners. Important factors impacting effective collaboration included: role clarity, team competencies, and communication (Pype et al., 2013). Cancer patients at the end-of-life and their families are reliant on family physician's clinical expertise to manage their complex symptoms, medications and treatments (Almaawiy et al., 2014). Having the involvement of a consistent family physician is associated with positive outcomes for patients and their families, including the decrease in the use of emergency and hospital resources (Almaawiy et al., 2014). A recent Ontario study found that more family physician visits to end-of-life home care cancer patients were associated with decreased odds of emergency department visits in the last 2 weeks of life, except where patients were receiving more than 4 visits per week, in which case they had an

increased odds of hospital death (Almaawiy et al., 2014).

Models of Care in the Home Setting

Canadian family physicians highlight the needs for more organized models of care to meet the needs of the patients experiencing acute and complex conditions. Three common models are: 1) Usual Model of care, 2) Diversion Program, and 3) Hospital in the Home Program (CFPC, 2000).

- 1) In the Usual Model, with physicians “supervising from afar” (CFPC, 2000, p. 9), nurses act as the liaison, coordinator and team leader. Communication with the physician is essential as well as ensuring a streamlined admission, care plan, referral and discharge processes are in place.
- 2) Diversion Programs are aimed at preventing avoidable hospital admissions and readmissions through ongoing monitoring and crisis intervention. They are multidisciplinary integrated teams that work out of hospitals or health units. “It builds on the existing patient-physician relationship by providing community physicians, nurses and family caregivers important back-up, advice and on-call capability” (CFPC, 2000, p.10). An example of this is the Integrated Client Care Project (ICCP) out of the Toronto Central LHIN (Baycrest) consisting of a team of physicians, a CCAC case manager, a pharmacy, and home care providers to provide in-home services to patients identified as high-risk users of the emergency department (OMA, 2014). The Brameast Family Health Organization is a group of 9 physicians and a clinical palliative nurse, (combined with the CCAC and a pharmacy) that meet the needs of 80 palliative care patients at a time, on a 24/7 basis. The 40-year-old practice receives 90% of their patients by referrals from either family physicians or local hospitals (Turnball, 2015). Another example of a diversion program is the Temmy Latner Centre for Palliative Care based out of Mount Sinai Hospital (MSH). Based in Toronto, Ontario it is one of the largest palliative care programs in Canada with approximately 1,200 referrals from across the GTA each year (Haas, 2013). In partnership with the CCAC, the Centre staffs approximately 20 physicians that are international leaders in end-of-life care providing care 24 hours a day, 7 days a week (Haas, 2013).
- 3) Hospital in the Home Programs are established through a series of partnerships and collaboration. Family physicians must apply for privileges to utilize hospital in the home and admission forms are sent to a unit coordinator at the hospital. An example of this is the New Brunswick Extra-Mural Program.

Examining Role Clarity and the Role of Physicians in Home Care

While not all home care requires physician oversight, research suggests that physicians who do hold legal accountability for ordering and monitoring home care services do not fully appreciate their role in managing home care (Fairchild et al., 2002). In medical education, home care has not traditionally been a primary focus nor has it been a core competency that is emphasized (Fairchild 2002; Engelke et al., 1998). Physicians need to be “clinically competent as well as knowledgeable about the home care system and home care technologies and conversant with community resources and how to deploy them” (Oandasan et al., 2004 p.52). In response to the declining numbers of family physicians providing home visits Jakubovicz and Srivastava (2015) designed a medical resident training program that integrated house call training out of St. Joseph’s Health Centre in Toronto, Ontario. In an effort to meet the recommendations from the Seniors Strategy for Ontario (Sinha, 2013), increasing residents’ exposure, comfort and skills in home visits, family practice residents were assigned at least one housebound patient to follow for a period of two years. After program completion, 80% of residents were confident in their clinical skills and ability to perform house calls, compared to 45% entering the program ($P < .001$) (Jakubovicz & Srivastava, 2015). However, despite their increased competency and comfort in providing house calls, residents’ self reported likelihood of providing house visits did not increase (43% exiting residents, 50% of entering residents).

In focus groups of family physicians in the Toronto CCAC catchment area, family physicians had limited understanding of home care services (Oandasan et al., 2004). It was unclear to physicians what home care services were available to their patients and although they were aware of the role of a CCAC care coordinator, they were unclear about the details of the role (Oandasan et al., 2004). For example, many physicians were not aware that care coordinators had healthcare backgrounds (Oandasan et al., 2004). The general confusion about home care services was the key reason for a physician’s hesitation to make referrals to CCAC services (Oandasan et al., 2004). In this study, many family physicians were unaware that in Ontario, CCAC referrals and telephone consultations with CCAC staff are billable services to the Ontario Ministry of Health and Long-Term Care (MOHLTC) (Oandasan et al., 2004). In addition, as the referral source for home care services can vary (e.g. emergency department), physicians report that they may be unaware of the home services that are currently being provided or do not receive adequate follow up from the CCAC (OMA, 2014).

Other themes generated by focus groups include physician frustration with service inconsistencies across CCACs, as well as frustration with inconsistencies among care coordinators at the same CCAC (Oandasan et al., 2004). These frustrations highlight a lack of standardized approaches to service delivery by CCACs and a mismatch between physician expectations and the operational realities of the home care system. Lastly, family physicians felt their role may not be valued in the care

of clients with by CCAC. Family physicians felt that a large part of their role was to act as patient advocates; advocating for the services that patients needed. However, they felt “out of the loop” or “bypassed” by nurses and patients (Oandasan et al., 2004).

Barriers and Facilitators to Nurse-Physician Communication in Home Care

Communication

Available research focuses on communication between nurses and physicians in the home care setting and the negative impact of ineffective communication on patient outcomes. This research describes a lack of collaboration and communication between nurses and physicians in the delivery of home care. Communication between case managers and physicians was also found to be limited and inefficient (Ruggiano et al., 2012). According to the Ontario Medical Association (2014), physicians may be unaware of the role, responsibility, experience and/or training of case managers and in some cases, speaking to the nurse providing direct care was more beneficial than speaking to the case manager. In home care, where care providers do not physically work together in the same space, a high level of collaboration and communication is needed (Fairchild et al., 2002). Thus, the communication between nurses and physicians in home care was identified as a major challenge and critical component to delivering patient care and contributing to patient outcomes (Brown et al., 2010). Many home care clinicians reported being dissatisfied with the telephone availability of physicians when needed (Fairchild et al., 2002).

Despite research demonstrating the positive outcomes associated with increased nurse-physician communication, other studies demonstrate that currently limited and ineffective communication exists. A study from the United States found that half of physicians surveyed seldom spoke to home care nurses delivering care (Riccio, 2000) and some physicians reported that they did not thoroughly review nursing documentation (Fairchild et al., 2002). Fairchild et al. (2002) suggest that amid time constraints and economic pressures, physicians who do not already routinely read care order forms are unlikely to start reading these forms. There is a mismatch between the amount and type of documented information physicians find useful.

Both physicians and home care clinicians reported being dissatisfied with the existing communication and collaboration in home care delivery (Fairchild et al., 2002). Collaboration is the “underlying operational basis for” the partnership between community based physicians and nurses (Korabek et al., 2004). Korabek et al. (2004) found that the limited and fragmented contact between care coordinators and physicians was associated with crisis intervention rather than regular care. Thus, there are minimal structures and processes in place to support this type of “integration and engagement of family physicians” (Korabek et al., 2004). Health Links, a program aimed at improving communication and patient access in Ontario, is currently being

implemented across 56 communities. Currently, 86 Health Links exist in Ontario and are designed to increase efficiency through an information management system (Better Care) that tracks patients with complex conditions as they move through the health care system (OMA, 2014). Authorized users can access the portal to receive current information on their patients' health.

The benefits of improving nurse-physician communication include: timely access to care coordination and being able to access physicians for urgent and non-urgent issues (Brown et al., 2010). As a result, clients benefit from receiving treatment sooner and having quicker responses to their issues (Brown et al., 2010). With increased nurse-physician communication, Brown et al. (2010) found there was an increased sense of professionalism, collaboration and morale. In response to these research findings, some countries have developed initiatives to improve communication and collaboration among healthcare professionals in home care. For example, a study from Finland describes the development of home care units whereby the general practitioner, home care nurses, and home help workers work collaboratively to deliver homecare for shared clients. This model involves the structured sharing of information, collegial consensus, and a consistent approach to client care (Eloranta, 2010).

Technology

Current research supports leveraging of information and communication technology (ICT) to bridge the communication gap and to be used as a tool for increasing patient safety and improved the quality of care (Lynstag et al., 2014). In the home care context, where care providers are "separated by time and space", ICT systems can play an important role as a catalyst for communication or as a mediator of information sharing (Lynstag et al., 2014). Amid home care setting constraints, a high proportion of surveyed physicians and home care clinicians felt that communication via e-mail or a common electronic record would be extremely or moderately useful (Fairchild et al., 2002). In a Norwegian study, nurses who used electronic messaging (e-messaging, including text messaging and emailing) found they had increased communication with physicians compared to nurses who did not use e-messaging although there was no impact on timeliness of communication (Lynstag et al., 2014). E-messaging was found not to replace, but rather complement existing communication methods (e.g. face-to-face communication, or telephone calls). Therefore, e-messaging was a tool that enhanced clinical communication and collaboration (Lyngstad et al., 2014). Walivaara et al. (2010) emphasized using mobile technology with caution. In a study investigating health care professionals using mobile technology solutions to access patient records in the home care setting, health care providers identified the mobile technology as useful and as having value in home care. However, they emphasized that technology cannot replace human interaction in healthcare (Walivaara et al., 2010).

Summary

In conclusion, the literature suggests that the lack of physician involvement in supporting home-based nursing care is complex and multifactorial. These factors include but are not limited to poor remuneration, medical liability, time inefficiency, and lack of access to diagnostic equipment. The College of Family Physicians of Canada highlight that service inconsistencies within CCACs and poorly organized models of home care delivery are areas that require careful reconsideration. Despite these barriers, physician involvement in home-based care is associated with positive outcomes including improved overall quality of care, decreased use of the emergency department and hospital resources, and patient and family satisfaction. Home care organizations, CCACs and LHINs are encouraged to enhance the nurse-physician communication and collaboration aspects of care delivery that are integral to positive patient outcomes.

References

- Almaawiy, U., Pond, G.R., Sussman, J., Brazil, K., & Seow, H. (2014). Are family physician visits and continuity of care associated with acute care use at end-of-life? A population-based cohort study of homecare cancer patients. *Palliative Medicine*, 28(2), 176-183.
- Brown, E.L., Raue, P.J., Klimstra, S., Mlodzianowski, A.E., Greenberg, R.L., & Bruce, M.L. (2010). An intervention to improve nurse-physician communication in depression care. *American Journal of Geriatric Psychiatry* 18(6), 483-490.
- College of Family Physicians of Canada (CFPC). (2000). The role of the family physician in home care: A discussion paper. Mississauga, ON: CFPC.
- De Bock, G.H., Van Kampen, I.M., Van der Goot, J.H., Hamstra, M., Dekker, J.H., Schuit, K.W., Van Der Meer, K. (2010). Transfer of information on palliative home care during the out-of-hours period. *Family Practice* 28: 280-286.
- Eloranta, S., Welch, A., Arve, S & Routasalo, P. (2010). A collaborative approach to home care delivery for older clients: Perspectives of home care providers. *Journal of Interprofessional Care*, 24(2): 198-200.
- Engelke, M.K., Britton, B.P., Burhans, L, Hall, S. (1998). Is there a doctor in the house? Integrating Medical Education and Home Health Care. *Home Care Provider*, 3(5), 260-265.
- Fairchild, D.G., Hogan, J., Smith, R. et al. (2002). Survey of primary care physicians and home care clinicians. *J Gen Intern Med* 17: 253-261.
- Groot, M., Vernooij-Dassen, M., Verhagen, S., Crul, B., & Grol, R. (2007). Obstacles to the delivery of primary palliative care as perceived by GPs. *Palliative Medicine*, 27: 697-703.
- Haas, T. Creating comfort where there is no cure. *Hospital News*, 9 Apr. 2013, retrieved from <http://hospitalnews.com/creating-comfort-when-there-is-no-cure/>.
- Oandasan, I., Luong, L., & Wojtak, A. (2004). Family physicians and home care agencies – Valuing each other’s roles in primary care. *Healthcare Quarterly*, 7(4): 49-52.

- Marrone, C. (2003). Home health care nurses' perceptions of physician-nurse relationships. *Qualitative Health Research*, 13(5): 623-635.
- Hennen, B.K. (1975). Continuity of care in family practice. Part 1: dimensions of continuity. *The Journal of family practice*, 2(5), 371-372.
- Jakubovicz, D., & Srivastava, A. (2015). Home visits in family medicine residency Evaluation of 8 years of a training program. *Canadian Family Physician*, 61(4), e189-e195.
- Korabek, B., Rosenau, P., Slauenwhite, C., & Ross, L. (2004). Home care/Physician partnerships in the community: A Canadian model in development. *Home Health Care Management & Practice*, 4: 261-268.
- Lynstag, M., Grimsno, A., Hofoss, D., & Helleso, R. (2013). Home care nurses' experiences with using electronic messaging in their communication with general practitioners. *Journal of Clinical Nursing*, 23: 3424-3433.
- Mainous, A.G., Baker, R., Love, M.M., Gray, D.P., & Gill, J.M. (2001). Continuity of care and trust in one's physician: evidence from primary care in the United States and the United Kingdom. *Fam Med*, 33(1), 22-27.
- Markley, J., & Winbery, S. (2008). Communicating with physicians: How agencies can be heard. *Home Health Care Management & Practice*, 20(2): 161-168.
- McWhinney, I.R., Bass, M.J., & Orr, V. (1995). Factors associated with location of death (home or hospital) of patients referred to a palliative care team. *CMAJ: Canadian Medical Association Journal*, 152(3), 361.
- McWilliam, C., Godfrey, B., Stewart, M., Sangster, J., Mitchell, J., & Cohen, I., (2003). Evolving the delivery of acute care services in the home. *Home Health Care Services Quarterly*, 22(1): 55.
- Ontario Medical Association (OMA). (2014). Home care: Recommendations to support physicians and patients as they access home care services. *Ontario Medical Review*, 81(9): 21 -32.
- Pype, P., Symons, L., Wens, J., Van den Eyden, B., Stess, A., Cherry, G., & Deveugele, M. (2013). Healthcare professionals' perceptions toward interprofessional collaboration in palliative home care: A view of Belgium. *Journal of Interprofessional Care*, 27: 313-319.

- Riccio, P.A. (2000). Quality evaluation of home nursing care: Perceptions of patients, physicians, and nurses. *Nursing administration quarterly*, 24(3), 43-52.
- Ruggiano, N., Shtompel, N., Hrsitidis, V., Roberts, L., Grochowski, J., & Brown, E. (2012). Need and potential use of information technology for case manager-physician communication in home care. *Home Health Care Management & Practice*, 24(6): 292-297.
- Smith, S.D.M., Nicol, K.M., Devereux, J., & Cornbleet, M.A. (1999). Encounters with doctors: quantity and quality. *Palliative medicine*, 13(3), 217-223.
- Sairenji, T., Jetty, A., & Peterson, L. E. (2015). Shifting Patterns of Physician Home Visits. *Journal of primary care & community health*, 2150131915616366.
- Sinha, S.K. (2013). Living longer, living well: Highlights and key recommendations from the report submitted to the Minister of Health and long-Term Care and the Minister responsible for seniors on recommendations to inform a seniors strategy for Ontario. Toronto, On: Queen's Printer for Ontario.
- Stewart, M., Sangster, J., Ryan, B., Hoch, J., Cohen, I., McWilliam, C, Mitchell, J., Vingilis, E., Tyrrell, C., & McWhinney, I. (2010). Integrating physician services in the home: evaluation of an innovation program. *Canadian Family Physician*, 56:1166-1174.
- Turnball, B. "Brampton palliative care team helps patients die at home". *Toronto Star*, 27 Jan. 2015, retrieved from http://www.thestar.com/life/health_wellness/2015/01/27/brampton-palliative-care-team-helps-patients-die-at-home.html.
- Van Walraven, C., Oake, N., Jennings, A., & Forster, A.J. (2010). The association between continuity of care and outcomes: a systematic and critical review. *Journal of evaluation in clinical practice*, 16(5), 947-956.
- Walivaara, B.M., Andersson, S., & Axelsson, K. (2011). General practitioners' reasoning about using mobile distance-spanning technology in home care and in nursing home care. *Scandinavian Journal of Caring*, 25: 117-125.

Appendix A

PsychInfo 2002 to January week 4, 2015

Exp Home Care/ OR home healthcare.mp OR community care.mp OR community-based care.mp

AND

exp Physicians/ OR doctor*

Results: 143 of these, 28 were relevant

Ovid MEDLINE(R) without Revisions 1996 to February week 1 2015

Initial search:

Exp Home Care/ OR home healthcare.mp OR community care.mp OR community-based care.mp

AND

exp Physicians/ OR doctor*

Results: 595. Because this number was high, an additional search term “nurses” was added.

Exp Home Care/ OR home healthcare.mp OR community care.mp OR community-based care.mp

AND

exp Physicians/ OR doctor*

AND

exp Nurses/

Results: 42, of these, 13 were relevant

CINHAL

(MH “Home Health Care+”) OR “community care” OR “community-based care”

AND

(MH “Physicians+”) OR “doctor*”

AND

(MH “Nurses+”)

Results: 98, of these 9 were relevant

37 final articles after removing duplicates and those that could not be found through U of T