ORIGINAL RESEARCH

Complex patients and interprofessional relationships: Perceptions of primary care nurse practitioners and primary care physicians

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Abstract

Purpose: The literature describing primary care nurse practitioners (PCNs) and primary care physicians (PCPs) suggests that PCNs provide care to patients with less complicated diagnoses than their PCP colleagues. However, other literature suggests the contrary. Therefore, the purpose of this qualitative study was to understand how patients are assigned and cared for by primary care clinicians and how these clinicians relate to one another. Additionally we explore how PCNs relate to physicians outside the practice.

Data sources: Two nurse investigators conducted in-depth qualitative interviews with a nurse practitioner and a family medicine physician leader in each of 10 primary care practices. A content analysis was used to identify major themes.

Conclusions: The participating PCNs and PCPs have highly collaborative relationships. PCNs often function independently, engage in reciprocal consultations with PCPs, and provide care to highly complex patients. In contrast to their relationships with practice colleagues, PCNP relationships with physicians outside the practice are disruptive.

Implications for practice: These findings indicate that PCNs are well-positioned to assume responsibility for a diversity of primary care patients, including those with complex diagnoses. To promote the more effective integration of PCNs, interprofessional barriers must be addressed by healthcare organizations and policy experts.

Introduction

The literature suggests that primary care nurse practitioners (PCNs) are highly competent to provide most aspects of primary care except perhaps if the patient has a complicated and/or acute diagnosis (Bauer, 2010; Laurant et al., 2005; Mundinger et al., 2000; Naylor & Kurtzman, 2010; Newhouse et al., 2011). In the case of the complicated patient, the literature suggests that the primary care physician (PCP) may be the most appropriate provider (Fairman, Rowe, Hassmiller, & Shalala, 2011). Yet, the definition of the "complex patient" is vague and the reality of how patients are assigned to either PCNs or PCPs within a practice may not be based on where the patient falls on the complexity continuum. For example, a recent study explored how diabetic patients were allocated among PCPs and PCNs in a large multispecialty physician group (Everett et al., 2013). It found that patients on PCNP panels were more likely to be of lower socioeconomic status, disabled, and comorbid for dementia and depression when compared to patients on PCP panels (Everett et al., 2013). The positive association between low socioeconomic status and illness suggests that PCNs are indeed caring for complex patients (Marmot, Kogevinas, & Elston, 1987; Singh-Manoux, Adler, & Marmot, 2003). Additionally, a recent online Journal of the American Medical Association Forum discussed the case of a PCNP who provides care to 2000 people in a rural, medically underserved area of New York (Mason, 2014). She collaborates with physicians who are 60 miles away, and refers patients to specialists more often than to her collaborators. It is safe to assume she is caring for patients with complex diagnoses and she represents a
decades old trend in which PCNPs are the sole primary care providers for people living in various regions of rural America (Grunbach, Hart, Mertz, Coffman, & Palazzo, 2003). It could be argued that these are unusual examples of the type of care provided by PCNPs and that those who work with PCPs in more populated areas with a greater number of clinicians care for less complex and more routine patients.

There is evidence that PCNPs care for less complicated patients than their PCP colleagues in some settings although this may be the outcome of organizational processes. A study that assessed patient assignments of PCNPs and PCPs in two patient-centered primary care medical homes found that based on 50,471 patient visits in 2011, patients triaged to physicians were based on codes indicative of chronic illness (Sohn, 2012), whereas PCNPs were assigned patients indicating minor and acute illnesses or well-person examinations (Sohn, 2012). The author’s conclusion was that PCNPs were being underutilized because assignments were predetermined and based on organizational processes. In another study in seven veterans administration (VA) hospitals, PCNPs play vastly different roles in different settings within the VA and yet overall, they care for less complex patients, such as those with diabetes and hypertension (Fletcher, Jill Baker, Copland, Reeves, & Lowery, 2007); this too was based on the organizational referral process. Additionally, it was found that when surveyed, PCPs were unaware of the number of independent decisions made by PCNPs when caring for unstable acute patients (Fletcher et al., 2007). The variability of PCNP roles in different primary care settings is striking. Therefore, to better understand the perceptions of PCNPs and PCPs and how they work together in 10 primary care settings in New Jersey and Pennsylvania, we explored (a) the process for assigning patients to either PCNPs or PCPs, (b) interprofessional consultations within the practice, and (c) consultations between PCNPs and physicians external to the practice setting.

**Methods**

This was a secondary data analysis of a data set from an interview study in which the authors explored the perceptions of PCNPs and PCPs about working with a patient’s oncologist during cancer treatment (DiCicco-Bloom & Cunningham, 2013). Additionally, participating PCNPs and PCPs discussed at length their experiences working together and with clinicians outside their practice. Consequently, these data provided the authors with an opportunity to conduct this secondary analysis to better understand how PCNPs and PCPs work together in practices and with those to whom they refer patients.

The practices were identified through a Primary Care Research Network. Participants included 20 clinicians, a PCP practice leader, and a PCNP from nine primary care practices (18 individuals) serving middle to upper middle income patients with health insurance, and one inner city charity care clinic with a PCP lead physician and a PCNP. Selection criteria required that the participating PCNPs were employed for at least 2 years in their practice. All PCPs had worked in their settings for more than 5 years. The PCNs were all female; three of the PCPs were male and seven were female.

Interviews were conducted from January 2009 until April 2010. They were recorded, transcribed verbatim, and entered into ATLAS.ti qualitative software program (Lewins & Silver, 2007). For the initial study, the first author conducted one interview and the second author conducted another two following a qualitative interview format (DiCicco-Bloom & Crabtree, 2006; DiCicco-Bloom & Cunningham, 2013; Miller & Crabtree, 1999). The authors used the grand tour question “Tell me about caring for a patient who is diagnosed with cancer” (DiCicco-Bloom & Cunningham, 2013). The question was kept broad to encourage exploration of all aspects of the experience. The use of probes, such as “Tell me more about that,” and “Can you give me an example,” were employed to encourage depth descriptions of the clinicians’ experiences.

Then, for this secondary analysis and using the same data set as for the first study, the authors each selected two interviews, one PCNP and one PCP, four in all. They independently analyzed the data to code for meaningful segments that described the work of PCNPs with PCPs and with clinicians outside the practice. The authors employed content analysis that uses a data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meaning (Patton, 2005). Following their independent coding, the two authors reviewed their codes together and developed a coding schema that the first author used to code the remainder of the data. Finally, the authors came together to review and group the codes into the three major themes that are presented in the results section.

The rigor of this secondary analysis was supported in several ways. First, the first author conducted most of the interviews for the initial study to maintain the quality of the data. Second, the authors, after independently analyzing the first few interviews, developed a coding schema together which guided the analysis that followed. Third, the selection of a charity care setting, which differed socio-economically from most of the practices showed the same results, suggesting transferability of the themes to a different context (DiCicco-Bloom & Crabtree, 2006). Fourth, although the experiences of PCPs and PCNPs may have differed in relation to other issues, with regard to the
emergent themes, both PCPs and PCNPs had similar perceptions of the work and experiences of PCNPs.

Results

Three themes that emerged from the data were (a) complex patients: PCNPs have and make time, (b) bidirectional consultation between PCPs and PCNPs, and (c) the challenge of relationships with physicians outside the practice. In all but one practice, the nurse practitioners had their own panel of patients. In 9 of the 10 settings, patients were referred to either the PCNPs or PCPs based on the availability of encounter slots and/or patient preferences. The interactions described by PCNPs and PCPs were based on the collaborative model in which the PCNP practices autonomously and determines themselves their need for consultation (Arcangelo, Fitzgerald, Carroll, & Plumb, 1996). In only one of the practices, the PCP spoke of “using” the PCNPs to see the acute and walk-in patients and the patients “[The PCP] does not want to see.” Thus, patients were triaged based on these criteria. The collaboration described by the PCNP and the PCP in the single low income community mirrored the perceptions of the clinicians working in middle to upper middle income communities. Therefore in our analysis we did not distinguish between the different practices.

Complex patients: PCNPs have and make time

The time allotted to PCNPs for patient visits and the desire of some to take the time to provide the social and emotional needs of patients was found to be a salient factor in determining how complex patients were assigned. In all 10 practices, PCPs had between 30 and 35 min for an initial visit and 12-15 min for a return appointment. PCNs had more time with patients; 45 min for an initial patient visit and up to 25-30 min for a return visit. In all but one of the practices, the PCPs remained in this time schedule, whereas PCNPs more often exceeded the scheduled time allotment. This was accepted if not entirely supported by PCPs as exemplified in the following statement:

PCP: [The PCNP] is scheduled every twenty-five minutes where Dr. XXXX and I are every fifteen and then [the PCNP] tends to run over.

Investigator: What happens when she runs over?

PCP: We’re knocking on the door. [laughter]. [The PCNP] gets involved, so she doesn’t like to be disrupted, you know if she’s involved then her [other] patients wait … but when it’s their turn to be in the room, she takes time with them, it evens out … it’s ok because it’s ok with her patients. It does [sometimes] come up that somebody can’t wait and one of us will pick [them] up, but that’s like twice a month … because they [her patients] know her and so it’s okay.

In another practice the PCP stated that:

[The PCNP] gets involved [with her patients]. She doesn’t like to be disrupted.

But you know what … people will wait and wait and wait and kind of kvetch about it,

but when it is their turn to be in the room and she takes time with them they are fine.

And finally another PCP captured the sentiments of other PCPs:

PCP: She does well with [emotionally distraught patients], but it takes time. She often closes the place.

Investigator: She closes the place?

PCP: Yes, [the PCNP] will stay with patients until she is finished and that may be after we are officially closed. The receptionists sometimes leave before she does.

Another PCNP talked about the fact that she would make home visits when it was deemed necessary for her patients and for the PCP’s patients at the PCP’s request. She spoke about how seeing her patients in the context of their home gave her a sense of their daily lives, which informed her care. In response to the request by the physician practice leader, the nurse had recently visited the physician’s patient, a young boy at home who had just been diagnosed with leukemia; he had lots of needs, but his family was too overwhelmed to visit the practice.

[PCNP] I went to the house and sat with them and talked to them and helped them make the call, [to the oncologist]. And then [the PCP] didn’t need to see the child again and I did the follow-up through home visits and appointments in the office when necessary. I also followed him for all his other health needs because once he started his cancer treatments some other medical care issues arose. This takes lots of time …

In another case a PCNP talked about her approach to caring for patients with serious illnesses. She would ask the spouse to come in for all visits so that she could observe their responses and try to assess their reaction to the patient’s condition or decline. This she admitted “took time” and she tried to schedule these couples for the last visit of the day so that she would not be interrupted.

PCNP: A [terminally ill cancer patient] was very difficult for the spouse. I tried to encourage the [wife] to visit with the patient because spouses neglect their own care and I worry about them as well. When the PCPs have a patient who is seriously ill and they have an overwhelmed spouse who is the caretaker they refer the patient and spouse to me. I can take the time to give more care to both and I try to encourage the spouse to visit me independent of the [terminally ill] patient.

PCPs talked about the PCNPs’ approach to patients that made the referral of “complex patients,” appropriate. The
PCPs stated that patients benefited from being seen by the PCNP as described by a practice leader:  

PCP: The PCNP approaches patients ... with a little bit more caring, a little bit more, “how do you feel?” Which of course we always think we [PCPs] do well. We pride ourselves in doing more than other doctors, but I still don’t think we do it as much as a nurse does or in the same way ... we bring different things. The physicians may be more focused on the diagnosis and clinical focus, but the PCNP may be more holistic and concerned about the social and emotional issues.

This following scenario captures this phenomenon:

PCP: We had a patient ... a young girl who had a drug history, and other medical complications such as malnutrition and diabetes, is now married with some children and [she] was using heroin again. And whereas I think Dr. XXXX and I would be much more clinical and would have quickly referred her to rehab, [the PCNP] was much more involved, trying to ... do some hand holding, [telling the patient to] call her tomorrow, wanting her to come in again the next day, to review her medical diagnoses [asking] what’s going on at home. That takes a lot of patience and those patients do better with her.

Thus, time is required for PCNPs to provide holistic care that includes the social and emotional needs of patients. In contrast, PCPs described themselves as more medically oriented with a focus on diagnosis and treatment. These factors may inadvertently result in the PCNP providing care for more medically and socially complex patients than their physician colleagues in some healthcare settings.

**Bidirectional consultation between PCPs and PCNPs**

The debate continues about whether PCNs need to have formal supervisory relationships with PCPs. And yet, what became evident from our data was that not only did PCNPs consult with PCPs when patient complexities were beyond their knowledge but that the PCPs consulted with the PCNPs for the same reason. For example:

PCNP: ... if I had a patient who I thought might need hospitalization because of an acute problem like appendicitis or I wanted [the PCP] to review an EKG to make sure it was safe to have this person do outpatient cardiac testing as opposed to being sent to the emergency room. I might check with [the PCP].

PCP: We all consult with [the PCNP] about what to do [with] pediatric patients ... for example, she knows the medications better than we do, because that’s her area of expertise. She also has a great sense about families and how to intervene with them.

And another:

PCP: I have to sign [PCNP work] for legal reasons. However, she has more knowledge about women’s health than either me or [the other practice physician] so she is the expert ... we go to her for information.

In one case, the regard afforded a PCNP by a PCP was substantial. The PCNP accepted responsibility for practice patients, while the PCP went to fulfill his military duty for 12 months. He was 50 miles away and available for consultation by phone. The practice also employed a second PCP who was available for 2 days a week during the PCP’s absence; however, the PCNP was designated as the covering clinician. When asked if the practice continued to function as usual, her response was:

PCNP: Yes ... and it gave me a chance to really get to know a lot of the patients.

In another case, a PCNP had her own panel of patients and also saw the acute care and walk-in patients 2 days a week so that the PCP could spend more time with his chronically ill patients. In return, the PCP acted as the “supervisory” physician for the PCNP's independent practice, which she described as focused on self-care, nutrition, and prevention for both well and ill patients. Because the laws governing hospital privileges do not extend to PCNPs in New Jersey, this PCNP would admit patients from her private practice through the PCP. When discussing whether this PCP referred patients to the PCNP he stated,

PCP: Sometimes I consult with her and I refer patients when they need more attention ... They may have complicated medical problems and [the PCNP] will ... sort out the issues. She knows all the community resources, which can be a big help.

These examples show that based on our data, PCNPs are often treated as consultants and colleagues to whom PCPs refer patients when PCNP care is better suited for them. One practice demonstrated the exception to the nature of the PCNP and PCP care in the nine practices described previously. The PCNP being interviewed had remained at the practice for 3 years. Prior to her tenure there were two PCPs who had been employed consecutively, but each had resigned within a year. When I asked the PCNP why they left she didn’t answer. She kept fidgeting throughout the interview and her answers were brief. The PCP practice leader kept walking by and peering into the room in which we sat. When I asked if I could close the door, the PCNP said “Please keep it open.” I complied. When I interviewed the PCP leader about her relationship with the PCNP she used the term, “working for me” many times. This differed markedly from the words and references used by the PCPs in the other nine practices and the PCP described the PCNP’s role in the practice as follows:

PCP: The PCNP helps me out and works according to what I need for the day. Sometimes I have her do acute visits ... and sometimes she sees her own patients. She has a small
group that she follows ... those are the patients that I decide I just don't want to see. They are the complainers and they are hard to deal with ... 

After the interview, I sat in the waiting room completing some notes. The PCNP walked into the room and put on her coat and the PCP followed saying, "After you have lunch please pick up my daughter and bring her here." When she noticed that I was sitting in the room, she hesitated and then said, "In this practice, we all help each other out." 

Most of the PCNPs were treated with respect and their knowledge and expertise were sought by their PCP colleagues similar to how the PCNPs sought the advice of the PCPs. Despite this, there was evidence that PCNPs can be exploited by their PCP colleagues based on their dependence on them for employment.

Challenging relationships with physicians outside the practice

Despite the value of the care provided by most PCNPs and the nature of their relationships with their PCPs colleagues, the PCNPs described challenges they experienced in the larger medical community. These incidents occurred between individuals outside their practice either within their own medical centers or with other institutions. These challenges interfered with, undermined morale, and were counterproductive to PCNPs delivering patient care. One PCNP talked about the billing process for the tests that she ordered for her patients. The fact that she could not bill directly because she was not an independent practitioner meant that she had to ask the secretaries to go through the PCPs test results to find those for her patients.

PCNP: All the reports now come to the physicians because all the billing has to be assigned to someone else. I often don’t know which physician it was assigned to. You know ... we are invisible to the outside world. The physicians here respect me totally but, it doesn’t feel good when this stuff happens and they get it. But that’s the way it is.

In another practice the PCNP described her interactions with the radiology department in her institution.

PCNP: I’ll send a patient over to get a film in the medical center and if I need a wet read, they’ll call back. Then the fun begins ... they will actually refuse to give the wet read to me. Now the issue is [the coordinator of services] wants us to refer to our own radiology department. I can refer to another radiology office in XXXXX but that means our hospital doesn’t get the business. But the other radiology service — they talk to me. They’re in it for the business. We run up against that kind of baloney all day long.

Another PCNP went from being a certain "physician’s nurse" in the institution’s emergency room to practicing more independently in a primary care setting within the same hospital system. When the nurse no longer “belonged” to the physician her efforts to get patient information from the physician was rejected:

PCNP: [The specialist], we used to work [together] ... and we did fine. And as soon as I took this job and was able to have my own panel of patients ... she wouldn’t give me the time of day. I called her with a question [about a patient] and she wouldn’t take my call. Finally I got her and she said, 'ask your own doctors.' That happens a lot in this institution ...

Another PCNP told the story of a radiologist who called to report that a mammography on one of the PCNP’s patients demonstrated a suspicious mass that was highly suggestive of a malignancy. He called the practice and the PCP answered the phone and advised the radiologist to speak with the PCNP directly because the patient was “her’s”. The PCP gave him the PCNP’s number and he refused to call her.

PCNP: ... Meanwhile the patient was calling me and leaving hysterical messages. “He wants me to have a biopsy right now and I don’t know what to do.” Finally I got through and got the information ... and then I said to him, “You need to tell me directly [what is going on] ... that was my patient.” He just hung up.

And another PCNP stated:

PCNP: If you look at the AMA and some of the things that are written, that’s got to get to the way ... I mean this has got to be resolved. If you just look and talk to the physicians that we work with and how they value us and how I value them and how it works, we are so important to primary care.

Discussion

Our study suggests that often PCNPs, in collaboration with PCPs in their practice, have the opportunity to care for complex patients and to work to their full potential. These findings contradict some of the literature that suggests that the role of PCNPs with their PCP colleagues is to care for routine and less complicated patients (Sohn, 2012). Our findings show that with exception of one PCNP, patients were not assigned to PCNPs or PCPs based on the complexity of their diagnoses, but rather on provider availability and patient preference. Moreover, in 9 of the 10 practices, those patients who were medically and socially complex and needed more provider time were often referred to the PCNPs. There may be several reasons for this: (a) PCNPs approach care delivery in a manner that may address the social challenges that afflict medically complicated patients, and (b) based on their salaries, PCNPs’ time is less expensive than their PCP colleagues; therefore, PCNPs may have more time to spend
with patients. Additionally, collaborations between PCNPs and PCPs include bidirectional consultations, although this was not always the case.

Primary care nurse practitioners experience variable levels of collaboration with their physician colleagues. While only 1 of 10 PCNP/PCP relationships was uncollaborative, most of the interactions between PCNPs and physicians outside of practices were obstructive. In one practice where the PCNP cared for walk-ins and the patients that the PCP did not want to see, patient assignment was based on the wishes of the PCP, not the competence of the PCNP. This resonates with findings that when PCNPs see less complex patients, it may be based on "organizational processes" rather than their competency (Fletcher et al., 2007; Sohn, 2012). Additionally, the reticence of the PCNP to let the author close the door during her interview and the PCP's request that the PCNP act as a chauffeur were evidence of intimidation and exploitation.

The literature on relationships among physicians and nurses in hospital settings suggests that physicians sometimes bully nurses, which contributes to a hostile work environment (Leape et al., 2012; Rosenstock & O'Daniel, 2005). Hostile interactions, such as those between the PCNPs and the physicians, external to their practice result in poor communication and medical errors and yet, there is very little research about these issues in primary care settings (Steliox, Palraisani, Scurlock, Ozav, & Bates, 2006).

Decades of studies have demonstrated that PCNPs provide safe and effective primary care to patients. In addition, their specific skills and approach to care may be just what is needed to address the aging population with its complex chronic illnesses and social issues (Mundinger et al., 2000; Naylor & Kurtzman, 2010). Yet despite this, the American Medical Association and other physicians groups continue to question the capacity of PCNPs to provide primary care rather than facilitating their ability to do so (Iglehart, 2013). Moreover, organizations may be creating systematic barriers to optimal use of PCNPs by instituting policies and processes for patient assignments that do not capitalize on the full range of PCNP skills. Additionally the attitude of the organized medical community may be having an untoward effect on the daily relationships between PCNPs and their physician colleagues outside their immediate work environment (Martin & Hutchinson, 1999; Street & Cosman, 2010). The nursing community, policy experts, and the Affordable Care Act are making it necessary for PCNPs to take more responsibility for providing primary care services. The environment within which PCNPs work can either support the high-quality care that they are capable of providing or undermine it and threaten patient safety and future healthcare outcomes.

Limitations

This investigation was conducted within a defined geographic area; therefore, transferability of findings may be limited. The PCNPs had several years of experience as practicing clinicians and some had worked with their physician practice leaders for an extended period of time; however, the authors did not purposely select experienced PCNPs. Additionally, the practices were selected from a Primary Care Practice Research Network. It is possible that the practice leaders that chose to be members of the network are more progressive and, therefore, more willing to work collaboratively with PCNPs. The data for this secondary analysis were collected for the previous study; therefore, the authors did not have the opportunity to probe interviewees further as the themes for this article emerged during the analysis process.

References


