


# Comparable, but distinct: Perceptions of primary care provided by physicians and nurse practitioners in full and restricted practice authority states

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## Abstract

**Aims:** To understand patients' and providers' perceptions of primary care delivered by nurse practitioners (NPs) in the Veterans Affairs Healthcare System.

**Design:** Qualitative exploratory study (in convergent mixed-methods design).

**Methods:** Semi-structured interviews in 2016 with primary care providers and patients from facilities in states with full and restricted practice authority for NPs. Patient sample based on reassignment to: (a) a NP; or (b) a different physician following an established physician relationship. Data were analysed using content analysis.

**Results:** We interviewed 28 patients, 17 physicians and 14 NPs. We found: (a) NPs provided more holistic care than physicians; (b) patients were satisfied with NPs; and (c) providers' professional experience outweighed provider type.

**Conclusions:** Patients' preferences for NPs (compared with prior physicians) contributed to perceptions of patient centredness. Similarities in providers' perceptions suggest NPs and physicians are both viable providers for primary care.

## Impact:

- Nurse Practitioners (NPs): practice authority
- Veterans Affairs Health care: nurse practitioners will continue to be a viable resource for primary care delivery
- United States Health care: challenges notions patients may not be satisfied with care provided by NPs and supports expanding their use to provide much-needed access to primary care services; expanding Full Practice Authority would allow states to provide acceptable primary care without diminishing patient or provider experiences

## KEYWORDS

nurse practitioner (NP), nursing, perceptions, primary care, qualitative, scope of practice

## 1 | INTRODUCTION

Nurse Practitioners (NPs) increasingly serve key roles in primary care delivery. Seventy-three per cent of NPs deliver primary care ('NP Fact Sheet', 2018), account for one fifth of the primary care workforce in the United States (US) ('Distribution of the U.S. Primary Care Workforce', 2018) and are the fastest-growing group of primary care providers (PCPs) (Lacey, Toossi, Dubina, & Gensler, 2017; U.S. Department of Health & Human Services, 2013). An increasing percentage (49% in 2010, 56% in 2017) have obtained a bachelor of science in nursing, indicating a higher level of training and education to better manage increasing complexity in patient care (Stringer, 2019). Quantitative studies have shown that primary care NPs provide safe, effective care, comparable to physicians (Fletcher, Copeland, Lowery, & Reeves, 2011; Hobson & Curtis, 2017; Newhouse et al., 2011; Stanik-Hutt et al., 2013; Yang et al., 2018) and patient satisfaction with physicians and NPs is similar (Budzi, Lurie, Singh, & Hooker, 2010; Redsell, Stokes, Jackson, Hastings, & Baker, 2007a).

The Institute of Medicine's 'Future of Nursing' (2011) report identified regulations restricting NPs' scope of practice as one critical barrier in addressing the shortage of primary care services in the US. The report, along with the Policy Position Statement from the National Council of State Boards of Nursing (2010), recommended NPs be able to practice to the full extent of their education and training to address primary care access challenges. NPs' scope of practice is governed at the state level (Kuo, Loresto, Rounds, & Goodwin, 2013) and over the past decade nine states have adopted Full Practice Authority (FPA), which takes the number of states (and District of Columbia) with FPA to 23 (Stringer, 2019). FPA is:

The collection of state practice and licensure laws that allow for nurse practitioners to evaluate patients, diagnose, order and interpret diagnostic tests, initiate and manage treatments—including prescribe medications—under the exclusive licensure authority of the state board of nursing (American Association of Nurse Practitioners, 2013).

Since FPA initiation, considerable quantitative evidence has been published on NP care quality, use and costs (Liu et al., 2020; Lockwood, 2019), which supports the use of NPs with FPA in primary care. Qualitative studies of patient or provider perspectives on primary care delivered by NPs are largely outdated given diverse regulatory practices in the US and the shift to FPA (Budzi et al., 2010; Laurant et al., 2008; Leach et al., 2018). A recent qualitative study examined the perceptions of independent primary care practice by NPs in one county in a state with restricted NP practice authority (Kraus & DuBois, 2017), but no qualitative research has examined the perceptions of NPs in a broader geographic context or in states with FPA. Thus, the breadth and nuance of patient and provider perspectives

inherent to qualitative approaches is a current and noteworthy gap.

## 2 | BACKGROUND

The Department of Veterans Affairs Healthcare System (VHA), funded by the US Federal Government, is one of the largest integrated healthcare systems in the US and is also the largest employer of NPs in the US, with more than 5,000 NPs in 900+ medical facilities ('About VHA', n.d.). In 2019, VHA provided care to six-million veteran enrollees. Like physicians, NPs operate as team leads in VHA's team-based primary care model and provide nearly 20% of all visits annually (Hobson & Curtis, 2017; Morgan, Abbott, McNeil, & Fisher, 2012; Yang et al., 2018). In September 2017 VHA released Directive 1,350 authorizing FPA across the organization (Department of Veterans Affairs, 2017). Even so, NPs in VHA must adhere to the laws of the state where the facility is located (Interstate Commission of Nurse Licensure Compact Administrators, 2018). Thus, VHA facilities in states without FPA are as similarly restricted as non-federal facilities.

We conducted qualitative interviews with patients, physicians and NPs in full and restricted practice authority states to understand perceptions of primary care delivery by these providers. Using a purposive sampling approach to address patient selection bias, we identified patients who were reassigned to either a physician or NP as their PCP following the departure of their prior physician from VHA. This study's findings have important implications for policies affecting use of NPs to address US healthcare systems facing an expected shortage of PCPs.

## 3 | THE STUDY

### 3.1 | Aims

Our objective was to explore VHA primary care patients' and providers' (physicians and NPs) perceptions and experiences with primary care delivered by NPs.

### 3.2 | Design

Qualitative exploratory data were collected as part of a convergent mixed-methods study (Fetters, Curry, & Creswell, 2013).

### 3.3 | Recruitment

Eligible participants were identified from a quantitative study comparing clinical outcomes between patients receiving care from NPs and physicians respectively (Liu et al., 2020). In a sequential exploratory approach, we used random purposive sampling to

separately identify patients and providers (NPs and physicians) to ensure representation from states with full and restricted practice authority (Carthon, Barnes, & Sarik, 2015).

### 3.3.1 | Patients

We first identified primary care physicians who left the VHA and then identified the patient assigned to these physicians; the relationship between these physicians and patients needed to be 'established' (minimum 1 year, including at least two visits in the prior year) and terminated due to the physician leaving VHA primary care or patients requesting a provider change. We included patients who were administratively reassigned to: (a) an NP; or (b) a different physician (Table 1). We excluded patients with no VHA primary care visits in the year prior to reassignment and patients who discontinued relationships with their new PCP in 2 years following reassignment. We recruited eligible patients ( $N = 187$ ) across age, gender, facility type (medical centre or community-based outpatient clinic) and state practice authority. They were mailed introductory study letters, followed up with by phone and were offered monetary compensation (\$25 per interview) for participating. We did not have capability to collect demographic data on those who declined participation.

### 3.3.2 | Providers

Initial contact with eligible providers ( $N = 253$ ) was via work email. We randomly sampled VHA physicians and NPs from four *FPA* states and from five *restricted practice authority* states (Table 2). No incentives were given for providers, per VHA guidelines. We did not have capability to collect demographic data on those who declined participation.

## 3.4 | Data collection

For patients and providers, we conducted individual, semi-structured telephone interviews (Roulston, 2010). We began with

**TABLE 1** Patient participant characteristics. Data on race/ethnicity were not collected for patients

|   | NP<br>( $N = 11$ ) | MD<br>( $N = 17$ ) |
|---|--------------------|--------------------|
|   | Mean<br>or %       | Mean<br>or %       |
| Age (mean, years)   | 53                 | 64.8               |
| Female (%)  | 36.3               | 11.8               |
| Facility type (VAMC <sup>a</sup> (%) versus CBOC <sup>b</sup> ) | 64                 | 47.1               |
| Restricted practice (five states)                               | 27.3               | 82.4               |
| Full practice (four states)                                     | 45.5               | 17.6               |

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<sup>b</sup>Community-Based Outpatient Clinic.

open-ended questions, thus allowing participants to bring up those ideas most salient to them in the scope of the study aims. Follow-up probes using participant verbatim language (e.g., 'Tell me more about *difficult*') were used to gain a deeper understanding of participant meaning, limit leading of participants and help build rapport by demonstrating active listening (Roulston, 2010). Interview guides (Appendices A, B and C) were developed by authors PG and GS, who also conducted interviews. PG and GS kept reflexive notes and discussed findings with team members to iteratively test and refine the interview guides. Interviews were audio recorded and transcribed. Transcripts were then audited to ensure trustworthiness and adherence to the interview protocol.

### 3.4.1 | Interviewers

All interviewers received extensive training, mentoring and feedback from author GS, who has 20 years of qualitative research experience. All interviewers had at least 4 years of prior experience conducting phone and in-person qualitative interviews with patients and healthcare providers.

### 3.4.2 | Patients

Patients were interviewed between February–August 2016. Patients were interviewed in 3 months of being reassigned to a new PCP and again 1 year later. Interviews lasted 10–30 min (mean 14 min). The initial (Appendix A) and follow-up (Appendix B) interview guides elicited care experience topics including satisfaction, acceptability and comfort with their previous PCP, as well as perceptions and attitudes towards their new PCP.

### 3.4.3 | Providers

Interviews lasted 15–30 min (mean 19 min). The PCP interview guide (Appendix C) was designed to capture general attitudes and perceptions of care delivery by NPs compared with physicians.

## 3.5 | Ethical considerations

We adhered to fundamental principles of protecting human subjects including user-friendly informed consent practices, voluntary

**TABLE 2** Participant (providers) by restriction of practice (state level). No demographic data were collected for providers

| State practice authority | Physician<br>( $N = 17$ ) | NP<br>( $N = 14$ ) |
|--------------------------|---------------------------|--------------------|
| Restricted (six states)  | 10                        | 6                  |
| Full (seven states)      | 7                         | 8                  |

participation and optional withdrawal and confidentiality and data protection procedures. All study procedures were reviewed by the Institutional Review Board at the Puget Sound Veterans Affairs Medical Center (Seattle, WA, USA); all participants provided informed consent.

### 3.6 | Data analysis

A conventional content analysis approach was used for analysis (Hsieh & Shannon, 2005). Transcripts were read multiple times to gain an overall understanding of interviews (Sandelowski, 1995). Two authors (PG and GS) coded and analysed all transcripts. ATLAS.ti (V7.0.89) qualitative data analysis software was used for organizing and managing data (Muhr, 2013). Patient and provider transcripts were coded separately while listening to interview audio files and concurrently reading the transcripts. Meaningful units of participants' responses were identified and assigned codes to summarize their content (Graneheim & Lundman, 2004). We used a small number of a-priori codes based on our research aims, including patient satisfaction, acceptability and comfort and perceived efficiency and effectiveness of NPs and physicians, although most coding was inductive to capture novel, unexpected findings (Elo & Kyngas, 2008). Codes were jointly reviewed with all members of the research team and iteratively refined (merged, split, or redefined) to resolve discrepancies and redundancies between coders. Further coding and continued discussions among coders and team members (Graneheim & Lundman, 2004) led to the identification of broad categories (Morse, 2008) followed by sub-coding systems based on representative quotations. These steps were repeated iteratively to refine each category and to verify the validity and credibility of findings against the data. The trustworthiness of findings from each group was further verified by triangulating categories between patient and provider interviews to identify overlap between groups.

Participant recruitment, coding, and analysis continued until information power was deemed sufficiently high to illustrate study aims based on theoretical application of interview and analysis methods, sample size and specificity and data variation (Malterud, Siersma, & Guassora, 2016; Morse, 2015).

### 3.7 | Rigour

We used criteria for establishing trustworthiness of naturalistic inquiries to ensure rigour throughout study development, data collection, and data analysis (Guba, 1981). To establish credibility, methods and analyses [including data triangulation by time point (patient pre/post) and type (patients/NPs/physicians)] were reviewed with researchers (physicians, NPs, qualitative experts) in and outside the study team. Transferability was established through our purposive sampling approach and descriptive data. We kept detailed records (meeting notes, email correspondence) to establish an audit trail for

dependability and copious reflexive memos to establish confirmability (Guba, 1981).

## 4 | FINDINGS

We interviewed 28 patients and 31 PCPs (17 physicians, 14 NPs). Our patient sample ensured representation across age, gender, facility type, and state practice authority; race-ethnicity data were not collected. Our provider sample ensured representation across state practice authority; demographic data (e.g., age, gender, and race-ethnicity) were not collected for providers. Participant information can be found in Tables 1 and 2. Three main findings emerged from these interviews about differences between care provided by NPs and physicians:

1. NPs provided a more 'human connection' and 'holistic' approach to patient care than physicians,
2. patients were satisfied with and in some cases preferred NPs and,
3. provider's professional experience ultimately outweighed provider type.

No differences were identified between initial and follow-up patient interviews, hence aggregated findings are reported.

### 4.1 | NPs provided a more 'human connection' and 'holistic' approach to patient care than physicians

Patients, physicians, and NPs described close, effective, interpersonal relationships between NPs and their primary care patients. Patients described feeling their NP was attentive, 'listened' to them and ensured their questions and concerns were addressed. This contrasted with patients who felt their newly assigned physicians did not listen to them, especially about health concerns:

I'm so much more comfortable with [NP] than [prior physician] ... She just had a better human connection. She was attentive to listening and providing information [on topics of concern], whether verbal or even a printout.

Patient – Reassigned to NP, Restricted practice state.

It's a shame. Every other doctor I had at least listened to what I had to say, of what all is wrong with me. I have a disease that's in my bones now. It's in my spine. And... it's like somebody's got a format out for him to read off of and him to write what he thinks should happen and go on. No research, no nothing, no checking into your health history or nothing like that.

Patient – Reassigned to Physician, Restricted practice state.

Physicians described NPs as excelling at counselling patients and being more effective in delivering patient education than physicians. Some physicians noted NPs' proficiency with patient education and their more holistic approach to patient care resulted in NPs having generally good population health metrics, such as diabetes quality measures:

... in general, NPs are more holistic, like being able to make things more applicable to patients and make them more applicable to caregivers. And I think... they're able to translate things a little bit better, from the medical to the personal. Personally, NPs are really interested in panel management, proactive registry-based care. For whatever reason, they like getting disengaged patients engaged and getting patients to green in terms of their metrics related to diabetes or things like that.

Physician, Restricted practice state.

From the NPs' perspective, word-of-mouth helped to spread information about their interpersonal skills and 'compassionate' and educational approach to care:

Well, of course, I always think NPs do a better job! We're trained differently, you know, we're trained to look at people more holistically, look at all aspects and I don't think a lot of MDs (medical doctors) are trained that way. So, I see a difference in how I practice compared with the MDs here.

NP, Full practice state.

I can only go by feedback from patients, that many times having never had an NP visit before, they will tell me, this is the first time anyone's ever gone over their lab results with them, the first time they've understood the disease process, the first time anybody's explained what their medications are for, or what this new medication is supposed to do. I just feel like in general NPs have a bigger emphasis on patient education and maybe explaining things a little more thoroughly, with the hope that patients will be more apt to follow through if they understand the reasons why.

NP, Restricted practice state.

No differences were observed in patients' or providers' perceptions of NPs' interpersonal approach to care between states with full and restricted scope of practice for NPs.

## 4.2 | Patients were satisfied with (and sometimes preferred) NPs

Patients expressed satisfaction with the care they received from NPs, not only from the 'better human connection' NPs provided, but also because NPs were viewed as 'very knowledgeable' and 'responsive':

She seems as other NPs... they're very knowledgeable... the reason I went to her was mostly, I like these NPs, number one, I've had such a positive experience with them. And [number two] they're more responsive, more knowledgeable [than physicians].

Patient – Reassigned to NP, Restricted practice state.

Only one patient, who lived in a state with restricted NPs' scope of practice, voiced explicit preference for physicians over NPs. This participant felt his medical issues were too complex for an NP and required a physician's medical expertise:

My concerns were that [NPs] aren't experienced enough, you know and I needed to talk to a doctor. I've had a lot of surgeries. I've gone through a lot of pain.

Patient – Reassigned to Physician, Restricted practice state.

On the contrary, other patients expressed unsolicited preferences for NPs—their 'real doctor'—to physicians. These preferences spanned patients in states with full and restricted practice authority for NPs:

I actually prefer an NP over a doctor. Like my current doctor, the "real" doctor? She's an NP... [they] tend to be more people friendly.

Patient – Reassigned to NP, Restricted practice state.

I mean, I have a better relationship with her than I did with [prior physician]...

Patient – Reassigned to NP, Full practice state.

Both sentiments—a patient preference for NPs over physicians and vice versa—was echoed by selected participants in both the physician and NP samples. A few NPs shared they would offer 'old school' patients—those who expressed wanting to see a physician over an NP—an out when they were reassigned to their panel. Yet, they often perceived veterans as being satisfied with the care NPs provided and opted to stay with them rather than switching to a physician:

We have one NP here and three MDs. There are some veterans that desire to see a physician rather than an NP, but we've had NPs working in this clinic for the

last 15 years and veterans have a high degree of satisfaction with their service.

Physician, Restricted practice state.

I'll introduce myself [as an NP], I'll explain exactly what I do and then, some of the guys, old school fellows, will say, "Well, I only want a doctor. I only want an MD," and they've already made an appointment. And I'll say, "If it's okay, if you're comfortable, we can go ahead and proceed with this meeting and see if I can take care of all of your needs and requirements and if you're still uncomfortable we can go ahead and get a transfer of care to an MD provider." In most cases, once they are here and we've had the [appointment], they're usually happy [and] they say, "You're providing more complete care than I've ever had before," and then they just stay with me.

NP, Restricted practice state.

Perceptions of patients' satisfaction with NPs among patients and staff largely appeared to be similar between states with full and restricted practice authority.

### 4.3 | Provider's professional experience ultimately outweighs provider type

Providers consistently indicated the critical factor in NPs' proficiency in primary care delivery was their accrued experience as a provider, including administrative efficiency and clinical knowledge. About the former, both types of providers across full and restricted practice states indicated panel management was more personality- than provider-type dependent:

I see some physicians on my wing who just want to see six patients a day, they're there until 7:00 or 8:00 p.m. at night. And other physicians always seem to leave at 4:30 p.m., whether or not they're done with everything... I got into a practice that was more structured so that I could hit all the necessary things: the reminders, the med renewals, the return-to-clinics and then kind of make sure that it's hitting all the necessary elements of the visit plus meeting the patients' needs.

NP, Restricted practice state.

Absolutely, [efficiency is] a personality thing. A lot of factors go into it... it's not comparing midlevels (NPs) to physicians. Midlevels can run circles around doctors, so there is definitely a difference in efficiency between everybody.

Physician, Full practice state.

Accrued clinical experience was perceived to increase NPs' knowledge and use of resources, influence their use of consultations and tests and improve their ability to manage difficult or complex patients. One physician stated, NPs 'might get care in different ways' but like physicians, they 'figure out how to get care' for their patients:

I think there's a debate of, you know, "Oh, NPs and PAs (physicians assistants) order more labs and tests than physicians do." That isn't necessarily borne out of the literature, although a lot of the studies are conducted by NPs, but it seems like the quality outcomes are pretty darn similar. The route by which they achieve that is probably different, whether it's more frequent touches and communications... They might get care in different ways but they both kind of figure out how to get care [for their patients].

Physician, Restricted practice state.

I'm thinking that something that would definitely be taken into account would be amount of time in practice of the NP, because as you know there is the 10,000-hr rule, that after 10,000 hr you do develop some expertise in your area of practice, [and] that said, I'm thinking new physicians, having just come out of residency, they are still pretty green.

NP, Full practice state.

Some NPs were perceived as needing or wanting more supervision or requesting more frequent consultation with their physician colleagues, although several providers noted these trends waned with time and experience. This was in part related to the idea that NPs know their limits, as well as how to obtain and use resources to best serve their patients:

We tend to have a very good head for knowing when something isn't quite right and really consulting at the drop of a hat because we know what our limitations are. We also have an intimate familiarity with what our resources are and if we don't know a particular resource we find out about the resource and how to access it pretty quickly.

NP, Full practice state.

One NP even directly commented on this sort of 'on-the-job' training and the importance of medical knowledge and the full spectrum of a 'therapeutic relationship' with patients. In other words, time, experience, and relationships with each patient also contribute to an NP's expertise:

On the one hand, I'm able to take care of very complicated patients. On the other hand, all of my knowledge and ability to take care of the complicated

patient comes from my on-the-job training... I didn't go to medical school. I wasn't trained like a physician is to take care of some of the complex patients. The other thing that happens is, you know, you may get a patient that's not complicated when you first see them but if you get that patient when they're 60, 65 and then they age and you don't leave the VA, that patient develops complex problems as they age. So, that's just life. You wouldn't necessarily want to give up that patient because you've developed a therapeutic relationship with them for years.

NP, Full practice state.

Overall, provider type was perceived as relatively unimportant as it related to quality of care and respect from colleagues and physicians and NPs were considered comparable across full and restricted practice authority states:

Patients are getting comparable quality of care across provider types

Physician, Full practice state.

## 5 | DISCUSSION

This qualitative exploratory study with VHA primary care patients, physicians, and NPs found consensus in perceptions of primary care delivery by NPs. Our findings corroborate systematic reviews that have found few differences in the quality or outcomes of primary care provided by NPs (Stanik-Hutt et al., 2013; Swan, Ferguson, Chang, Larson, & Smaldone, 2015). Our findings also support recent qualitative studies conducted post-FPA, which found physician and NP perspectives on NPs were generally positive and accordant (Kraus & DuBois, 2017; Lovink et al., 2018). Furthermore—and consistent with previous international studies in cancer care (van Dusseldorp et al., 2019; Stahlke, Rawson, & Pituskin, 2017) and primary care settings (Bergman, Perhed, Eriksson, Lindblad, & Fagerstrom, 2013; Redsell et al., 2007a)—our study reveals patients are altogether satisfied with both physicians and NPs. Altogether these findings provide further support to policies that increase practice authority of NPs providing primary care services.

Our study contributes to the gap in qualitative evidence related to the experiences and perceptions of primary care provided by NPs in the US post-FPA. What we found in speaking with participants across both full and restricted practice states was perceptions of NPs were largely favourable in terms of the quality of care and education provided, their ability to address multiple aspects of a patient's care and in some cases, NPs were preferred to physicians for their interpersonal skills.

Both physicians and NPs regarded knowledge acquired through practice as critical to NPs' proficiency in primary care delivery and patient workload management. This finding contrasts the argument against expanding independent practice for NPs because of their

fewer years of formal education (Department of Veterans Affairs, 2016), as on-the-job education and training appears essential for physicians and NPs alike. Not surprisingly, high-quality, physician-delivered care has been linked to more time in practice, (Weinberger, Duffy, & Cassel, 2005), as has been the case for NPs (Benner, 1982).

Second, even in instances when NPs felt as although a patient's medical issues were beyond their level of expertise, we heard from patients and providers alike that NPs know how to draw on available resources or find new ones (e.g., social work, mental health) to effectively provide patients with needed care. In settings like VHA, where patients tend to be more medically and behaviourally complex than non-VHA patients (Agha, Lofgren, VanRuiswyk, & Layde, 2000; Farmer, Hosek, & Adamson, 2016), these skills may be especially important.

The perception that NPs are better at providing the interpersonal aspects of patient care than physicians coincides with findings about patients' satisfaction with the respectful and holistic health care delivered by NPs compared with physicians (Bergman et al., 2013; Horrocks, Anderson, & Salisbury, 2002; Stahlke et al., 2017; Stanik-Hutt et al., 2013; Swan et al., 2015). While not explicitly outlined by scope of practice laws, this ability to provide interpersonal care is one important component of patient-centred care (Newell & Jordan, 2015). Given the US healthcare system's focus on providing patient-centred care (Institute of Medicine (US) Committee on Quality, 2001), these findings have important implications for further improving primary care delivery in both VHA and non-VHA settings. Our study adds qualitative evidence to the US healthcare system's understanding of perspectives on primary care provided by NPs across a geographically diverse set of patients receiving care in states with differing scope of practice laws.

Finally, common assumptions indicate patients tend to prefer physicians over NPs, reflecting traditional medical hierarchies (Redsell, Stokes, Jackson, Hastings, & Baker, 2007b). However, we found a strong link between the patient-centredness of care, patients' satisfaction and at times unsolicited preference for NPs. This is consistent with prior research showing establishment of a therapeutic relationship, clinical skills, effective communication and collaboration with patients are key factors associated with patient satisfaction with NPs (Jakimowicz, Stirling, & Duddle, 2015; Leach et al., 2018). Although these relational aspects of care are not related to practice authority, they are important, human-level characteristics that are critical to patients' satisfaction with their providers and overall health care.

Creating sustainable access that does not diminish patient experiences and outcomes may be possible by expanding the number of NPs in primary care practice (Bauer, 2010; Institute of Medicine, 2011). In some cases, this may be more cost-effective even with complex patients (Liu et al., 2020; Morgan et al., 2019). Moreover, if states allow NPs to operate to the full extent of their licensure, a more fully engaged and productive healthcare workforce may be possible (Bodenheimer & Sinsky, 2014; Sikka, Morath, & Leape, 2015). These findings suggest there is room to modify current policies through expanding adoption of FPA and

how NPs are used in the current US healthcare system (Chouinard, Contandriopoulos, Perroux, & Larouche, 2017; Newhouse et al., 2012).

## 5.1 | Strengths

Our study has several strengths. First, we interviewed primary care patients who were administratively reassigned to an NP or physician following the termination of a relationship with their prior physician. This approach reduced the likelihood of bias arising from self-selecting one provider over another (Leach et al., 2018), or reassignments based on medical complexity (Morgan et al., 2017), thereby increasing the study's credibility and confirmability (Guba, 1981). Second, although VHA officially released Directive 1,350 authorizing FPA in September 2017 (Department of Veterans Affairs, 2017), our data were collected in 2016, thus our participant samples matched state-level NP practice authority at the time (Carthon et al., 2015). This increases the transferability of our findings outside of VHA contexts (Guba, 1981). By sampling across states with different practice restrictions, the opportunity that findings would be skewed by one type of state practice laws was reduced.

## 5.2 | Limitations

Our study has several limitations. Since our data are from 2016, they may not reflect current perceptions. The demographic characteristics of interview participants are potentially different from those who declined; however, we are unable to comment on differences due to the lack of available data. Thus, it is possible our sample only includes participants who provided interviewers with answers they thought desirable. The brevity of interviews may raise questions as to the quality of dialogue for adequate information power (Malterud et al., 2016). Although our sample size was suitable to address study aims, compared with random quantitative samples it is small and less varied and thus limits the ability to draw conclusions about the prevalence, frequency, or causality of our findings. For example, our largely male patient sample may not reflect the views of female or non-VHA patients. Perceptions of NPs may be influenced by participants' age, gender, the US and/or VHA practice environment, or other unexplored factors such as racial or ethnic minority status. As such, our findings should be viewed as formative and identifying important relevant perceptions of NPs post-FPA implementation, rather than representing all US or VHA patients or providers, general perceptions of all NPs, or of NPs practicing in subspecialty areas outside of primary care settings.

## 5.3 | Future directions

Integration of our study's qualitative and quantitative findings (Liu et al., 2020) is forthcoming. Future qualitative studies should

focus on female patient preferences and veterans in VHA post Directive 1,350 (Department of Veterans Affairs, 2017). Our findings have important implications for health policy, as they challenge notions patients may not be satisfied with primary care provided by NPs and supports expanding FPA to all states to provide acceptable primary care without diminishing patient or provider experiences.

## 6 | CONCLUSION

Although NPs were perceived as comparable to physicians in many ways, we found a distinct difference in patients' satisfaction and preference for the holistic, interpersonal care provided by NPs. Similarities in providers' perceptions suggest NPs and physicians generally work well together and individual providers' professional experience was a more important determinant of their proficiency with delivering effective primary care than their credentials.

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### CONFLICT OF INTEREST

No conflict of interest has been declared by the author(s).

### AUTHOR CONTRIBUTIONS

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (<http://www.icmje.org/recommendations/>)]:

1. Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
2. Drafting the article or revising it critically for important intellectual content.

MM, GS, PG, EN, CS, AS, AR, EW, and CFL made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; involved in drafting the manuscript or revising it critically for important intellectual content; and given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. MM, GS, EW, and CFL agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

### PEER REVIEW

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## APPENDIX A.

### Patient initial interview guide questions and prompts

[Generic prompts: If responses are limited or require clarification, probes may be used to elicit more detailed responses. Probes should use verbatim words or phrases presented by the participant using one of the following formats:]

1. What do you mean by \_\_\_\_\_ ?
2. Can you tell me more about \_\_\_\_\_ ?
3. Can you give me an example of \_\_\_\_\_ ?
4. Can you tell me about a time when \_\_\_\_\_ ?
5. Can you tell me who \_\_\_\_\_ ?
6. First, I would like to ask you a general question. Overall, how would you describe the care you receive at the VA?

7. I understand that (*previous PCP, first and last name*) \_\_\_\_\_ has been your VHA primary care provider. Is that accurate?

a. [IF NO] Have you ever seen (*previous PCP, first and last name*)? \_\_\_\_\_

(i) [IF NO] Question 4

8. Can you describe your relationship with (*previous PCP, first and last name*)?

9. Have you started seeing a new VHA Primary Care Provider recently?

If YES

a. I understand that (*new PCP, first and last name*) \_\_\_\_\_ is your current primary care provider. Is that accurate?

(i) [IF NO] Question 5

(ii) Can you describe your relationship with (*new PCP, first and last name*)?

(iii) Tell me about the process of changing providers

If NEEDED

(i) What prompted the change?

(i) How were you informed?

(i) Who made the decision to change your provider?

If NO

1. Who is your current primary care provider?

a. How long have you been seeing (*name*) \_\_\_\_\_?

b. Can you describe your relationship with (*current PCP, first and last name*)?

2. You described the healthcare you received at the VHA as \_\_\_\_\_.

[IF SEEN NEW PROVIDER] Has changing primary care providers affected that?

1. Do you have any questions for us, or is there anything else we should know?

a. [IF PROVIDER CHANGED] Is there anything else we should know about your provider change?

Thank you for participating in this interview. We will be in contact with you to schedule a follow-up interview in approximately \_\_\_\_\_ months.

## APPENDIX B.

### Patient follow-up interview guide questions and prompts

[Generic prompts: If responses are limited or require clarification, probes may be used to elicit more detailed responses. Probes should use

verbatim words or phrases presented by the participant using one of the following formats:]

1. What do you mean by \_\_\_\_\_ ?

2. CAN YOU TELL ME MORE ABOUT \_\_\_\_\_ ?

3. Can you give me an example of \_\_\_\_\_ ?

4. Can you tell me about a time when \_\_\_\_\_ ?

5. Can you tell me who \_\_\_\_\_ ?

a. During your first interview, you described the care you receive in the VHA as \_\_\_\_\_. Has that changed for you at all?

b. Last time we spoke, (*current PCP, first and last name*) \_\_\_\_\_ was your VHA primary care provider. Is (*current PCP, first and last name*) still your primary care provider?

c. [IF YES] Could you please describe your relationship with (*current PCP, first and last name*)?

d. [IF NO] Who is your current primary care provider?

e. Can you describe your relationship with your current primary care provider?

f. Tell me about the process of changing providers.

If NEEDED

a. What prompted the change?

a. How were you informed?

b. Who made the decision to change your provider?

c. [FOR MD-MD Vets] Have you ever seen a primary care NP at the VA?

d. [IF YES] Tell me about that experience.

e. Do you have any questions for us, or is there anything else we should know?

f. [IF PROVIDER CHANGED] Is there anything else we should know about your provider change?

Thank you very much for participating in these interviews, we really appreciate it. Have a great day.

## APPENDIX C.

### Provider interview guide questions and prompts

[Generic prompts: If responses are limited or require clarification, probes may be used to elicit more detailed responses. Probes should use verbatim words or phrases presented by the participant using one of the following formats:]

1. What do you mean by \_\_\_\_\_ ?

2. CAN YOU TELL ME MORE ABOUT \_\_\_\_\_ ?

3. Can you give me an example of \_\_\_\_\_ ?

4. Can you tell me about a time when \_\_\_\_\_ ?

a. What is your title and role at the VA?

b. What percentage of your time is spent delivering primary care?

c. Do you primarily work at a CBOC or Medical Center?

d. Please describe how new patients are assigned to primary care

providers.

[AS NEEDED]

a. Who makes the determination?

a. What factors are considered when determining patient assignment?

[AS NEEDED]

a. Are patient risk factors or diagnoses considered?

a. Are patient preferences considered?

b. Is provider level or type considered?

c. [AS NEEDED] How are patients reassigned to a new provider?

d. [AS NEEDED] How about when a provider leaves the clinic?

e. Overall, how well does patient assignment and reassignment at your site work?

[AS NEEDED]

a. How complicated is the process?

b. Do you have the resources needed for this type of patient assignment?

c. How do you think patient assignment could be improved?

[IF ASSIGNMENT BY PROVIDER TYPE IS IDENTIFIED]

a. If your site were to move toward a more structured patient assignment process based on primary care provider type, specifically MDs or NPs, how would that work?

[AS NEEDED]

a. What factors should be taken into consideration?

b. How complicated would such a process be to implement?

c. What resources would be needed to implement such a process?

d. What, if any, would be the barriers to implementing such a process?

e. What, if anything, would make implementing the process easier?

f. Now I would like to ask you some questions about the differences between types of primary care providers.

g. How does the practice of NPs and MDs differ at your site?

[AS NEEDED]

a. Do you see a difference in the efficiency of primary care provider types?

b. [AS NEEDED] delivering appropriate care within a reasonable amount of time with reasonable resources.

c. Do you see a difference in effectiveness of primary care provider types?

d. [AS NEEDED] effectiveness defined as positive clinical outcomes.

e. Do you have any questions for us, or is there anything else we should know?

f. Is there anyone else you would recommend we speak to about our study?

Thank you for participating in this interview.

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