ORIGINAL RESEARCH

Distance is Relative: Unpacking a Principal Barrier in Rural Healthcare

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BACKGROUND: Distance to healthcare services is a known barrier to access. However, the degree to which distance is a barrier is not well described. Distance may impact different patients in different ways and be mediated by the context of medical need.

OBJECTIVE: Identify factors related to distance that impede access to care for rural veterans.

APPROACH: Mixed-methods approach including surveys, in-depth interviews, and focus groups at 15 Veterans Health Administration (VHA) primary care clinics in 8 Midwestern states. Survey data were compiled and interviews transcribed and coded for thematic content.

PARTICIPANTS: Surveys were completed by 96 patients and 88 providers/staff. In-depth interviews were completed by 42 patients and 64 providers/staff. A total of 7 focus groups were convened consisting of providers and staff.

KEY RESULTS: Distance was identified by patients, providers, and staff as the most important barrier for rural veterans seeking healthcare. In-depth interviews revealed specific examples of barriers to care such as long travel for common diagnostic services, routine specialty care, and emergency services. Patient factors compounding the impact of these barriers were health status, functional impairment, travel cost, and work or family obligations. Providers and staff reported challenges to healthcare delivery due to distance.

CONCLUSIONS: Distance as a barrier to healthcare was not uniformly defined. Rather, its importance was relative to the health status and resources of patients, complexity of service provided, and urgency of service needed. Improved transportation, flexible fee-based services, more structured communication mechanisms, and integration with community resources will improve access to care and overall health status for rural veterans.

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BACKGROUND

Demographic trends of recent military conflicts show that rural populations contribute a disproportionately large number of recruits compared to their urban counterparts. Although rural areas comprise 7.5% of the United States population aged 18 to 24, 11.8% of military recruits in 2005 were from these areas.[1] More striking is the strong positive linear relationship between rurality of a geographic area and proportion presenting for military service, with the highest concentrations of veterans found in rural and nonmetropolitan US counties.[2] When in service these rural recruits incur an unexpectedly high proportion of casualties.[3] The Veterans Health Administration (VHA) provides healthcare for approximately 7.8 million of the 25 million veterans, with 36% of these enrollees residing in rural areas.[4] Due to these trends and identified healthcare needs of rural veterans, VHA has made rural outreach and support a top priority, establishing the Office of Rural Health to address rural veteran needs.[5]

There are many challenges to providing adequate, high quality care for rural veterans. Compared to urban veterans, rural veterans have lower health-related quality of life, in particular for physical as compared to mental symptoms.[6,7] Though the causes for this are likely multi-factorial, access to health services may be hindered by travel distance. A qualitative study of rural older adults found travel distance to be the strongest barrier to healthcare, endorsed by 33%, while other barriers such as lack of quality healthcare, rural culture/pride, and limited services were endorsed by 15 to 20%.[8] Among veterans, travel distance was found to be the strongest predictor of poor retention in treatment of serious mental illness.[9] Increasing travel distance also predicts poor retention for alcohol abuse treatment, with the strongest relationship observed among older veterans.[10]

Mooney et al. examined the relationship between travel distance and medical-surgical care among veterans and, as expected, found that rural veterans travel farther than urban

veterans for care.[11] They also reported rural veterans travel farther to VHA hospitals than to non-VHA hospitals, reflected in the fact that of 153 VHA hospitals less than one-fourth are located in rural or highly rural areas. Utilization rates also dropped dramatically for veterans living ≥15 miles from the nearest VHA hospital. Although distance to a VHA hospital is directly related to utilization, it is not feasible to build VHA hospitals in every rural community, and additional solutions must be explored.

To improve access to primary care and help address the distance issue, VHA developed 788 Community Based Outpatient Clinics (CBOCs)[12] where veterans report greater satisfaction with care than at more centrally located facilities.[13,14] Mobile clinics are also well accepted in spite of space and logistic challenges that limit use.[15] While these and other initiatives have improved access and satisfaction among rural veterans, little research has explored the perceptions and experiences of distance for both patients and providers. Thus, we conducted a mixed-methods study of rural veterans, providers, and staff to investigate the impact of travel distance on use of VHA services, satisfaction, and impact on healthcare delivery. We employed these methods to examine relevant topics for rural veterans (e.g., specialty care access, emergency services, and travel burden in terms of time, money, and effort). Understanding the impact of distance on healthcare access will help design more effective interventions to overcome this potential barrier for all patients.

METHODS

Site Selection, Sampling, and Data Collection

Clinics selected represent a stratified sample of 15 urban and rural primary care clinics at VHA CBOCs and Medical Centers (VAMC). The stratification criteria included: (1) urban and rural; (2) geographic coverage of VISN 23, the VA Midwest Healthcare Network; and (3) VA-managed and contract clinics, resulting in a purposeful sample of two urban VAMC clinics, three urban CBOCs, seven rural VA-managed CBOCs (including two "traveling" teams), and three rural contract CBOCs located in eight Midwestern states (i.e., Illinois, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin, and Wyoming).

The research team made in-person visits to the 15 clinics between June and October 2009. Each location was visited by two to three members of the research team for the duration of one business day. The team surveyed and interviewed a convenience sample of veteran-patients who had clinic appointments on the day of the visit. Every patient was approached by a member of the research team in the waiting room, and those that elected to participate reviewed and signed a consent form and completed the survey and/or interview either before or after their scheduled appointment. Surveys, interviews, and focus groups with primary care staff and providers were completed on the same day. Surveys and consent forms were distributed by a member of the research team to providers and staff at the beginning of the work day, along with a personal explanation of the study. Those that elected to participate then voluntarily came to the interview room to complete an interview or turn in a survey, and/or came to the focus group over the lunch hour. Most staff and physicians elected to participate, and the distribution of participants by occupation is included in Table 1. All subjects were consented prior to completing a survey and/or an in-depth interview. The study was approved by the Institutional Review Board of the University of Iowa and the Iowa City VA Research and Development Committee.

Table 1. Descriptive Statistics for Patients, Clinic Staff, and Providers Surveyed

Patients	N=96	Clinic staff and providers	N=88
Mean age (SD)	61.7 (15.4)	Mean age (SD)	48.1 (10.1)
Male	91 (94.8%)	Male	16 (18.2%)
Race/ethnicity*		Race/ethnicity*	
White/Caucasian	88 (91.7%)	White/Caucasian	80 (90.9%)
Black/African-American	5 (5.2%)	Black/African-American	1 (1.1%)
Asian/Hawaiian/Pacific Islander	0 (0.0%)	Asian/Hawaiian/Pacific Islander	5 (5.7%)
Native American/American Indian	2 (2.1%)	Native American/American Indian	4 (4.6%)
Latino	2 (2.1%)	Latino	1 (1.1%)
Mean years in military (SD)	5.3 (5.2)		
Health insurance options			
Have Medicare	49 (51.0%)		
Have private health insurance	43 (44.8%)		
Service era*			
WWII	11 (11.5%)		
Post-WWII	1 (1.0%)		
Korean conflict	11 (11.5%)		
Post-Korean conflict	16 (16.7%)		
Vietnam	33 (34.4%)		
Post-Vietnam	14 (14.6%)		
Persian Gulf War	13 (13.5%)		
Post-Persian Gulf	5 (5.2%)		
OEF/OIF	8 (8.3%)		
Unknown	3 (3.1%)		
		Mean years at VHA (SD)	6.4 (6.8)
		Occupation*	
		Providers (i.e., physician, PA, NP)	29 (32.9%)
		Nursing staff (RN, LPN)	32 (36.4%)
		Administrative and other clinic staff	36 (40.9%)
Catchment area		Catchment area	
Black Hills HCS	10 (10.4%)	Black Hills HCS	27 (30.7%)
Iowa City VAMC	47 (49.0%)	Iowa City VAMC	27 (30.7%)
Fargo VAMC	4 (4.2%)	Fargo VAMC	13 (14.7%)
Minneapolis VAMC	35 (36.4%)	Minneapolis VAMC	21 (23.8%)

Some respondents may be represented in multiple categories

Patient and provider/staff surveys were developed by the research team and tested for length and timing prior to data collection. Patient surveys included quantitative questions about demographics, geographic distance, healthcare utilization, and perceptions of barriers to care. Provider/staff surveys included demographics, perceptions of barriers to care, and barriers to providing care to veterans. In-depth interview guides were developed then evaluated and revised periodically throughout the study as analysis evolved and new topics emerged. Patients were asked about their experiences and opinions regarding: (1) accessing VHA healthcare, (2) distance and travel to primary care, (3) barriers to primary and specialty care, (4) co-management, and (5) telehealth. Clinic providers/staff were asked about their perceptions of veteran use of VHA healthcare

as well as personal experience working within VHA. Sample questions are listed in Table 2. In-depth interviews were completed in person and recorded on encrypted digital voice recorders. When possible, focus groups (n=7) were conducted with clinic providers/staff, audio recorded for accuracy, and field notes were prepared and the team debriefed after each clinic visit.

Subjects

A total of 101 veterans were consented of which 96 completed quantitative surveys and 42 completed in-depth interviews. Additionally, 114 clinic staff and providers were consented, including 88 who completed quantitative surveys and 64 who completed in-depth interviews. Focus groups were convened at 7 clinic sites averaging 7 participants per site with a total of 60 staff and providers participating; all but 13 also completed a survey and/or in-depth interview.

Table 2. Selection of Questions Included in the In-Depth Interview Guide

Asked of primary care clinic staff and providers
- What barriers or challenges have YOU encountered in providing care to rural veteran patients? Do your rural patients have particular healthcare needs that are unmet or should be addressed?
- What role, if any, do you think that proximity to this clinic (or travel time) from patients' homes plays in veterans accessing care at the VA?
- Again, thinking about the rural patients that you have encountered, what are some of the barriers or challenges that rural veterans face that make receiving care at the VA difficult or challenging?
  Do the barriers or challenges that rural veterans seem to face differ depending on the type of care they are seeking *(e.g., primary care, mental health, specialty care)*? If yes, how? Can you give me an example to illustrate your point?
- In terms of health care for rural veterans, what does the VA system do well?
- In terms of health care for rural veterans, what could the VA system it do better?

Asked of veteran/patients
- What are some of the main reasons YOU come to the VA for your healthcare?
- What is your primary mode of transportation to the clinic? In other words, how do you usually get to the clinic from your home (e.g., bus, drive yourself, friend or relative drives you, volunteer van)?
- Are you able to get yourself to the clinic or do you require assistance?
  a. If so, what type of assistance do you need?
  b. Do you receive that assistance?
  c. If so, how/by what means?
- What, if any, role do you see proximity (or travel time) to the VA clinic playing in YOU access to health care at the VA?
- The assumption many in this field make is that distance is the major barrier, so they have come up with ways to try to deal with distances. We'd like to hear your thoughts on the pros and cons to these proposals:
  (1) One, which some of you probably already do, is going to "local clinicians" for some health care. We often call it "dual utilization" or "co-management," meaning that you use both the VA and other health care organizations for your care. What do you think about this type of health care? What have your experiences been? What would you think about the VA reimbursing or contracting out some types of care?
  (2) Another idea is to use more technology, often called "telehealth." For example, calling in your BP or blood sugar readings to a case manager who would help watch your health for you. Or talking with a clinician over a video conferencing line. Or tracking your health issues on the Internet. What do you think about this type of health care? What have your experiences been?
- If YOU could influence national VA policy for rural health…what would YOUR priorities be? Or rather as a veteran using rural VA health services, what do you think are the most pressing rural health care needs?

Analysis

Quantitative survey data were entered into a database and imported into SAS for analysis.[16] Recordings of qualitative interviews and focus groups were transcribed verbatim and reviewed against the original recording by the interviewer or a trained staff member to ensure accuracy. Prior to coding, transcripts were imported into NVivo 8, a qualitative data management software program.[17] A codebook, including on a priori research hypotheses and emergent/inductive themes, was developed by the interviewers after completion of interviews followed by a systematic review of a random selection of eight transcripts representing patient interviews, clinic provider/staff interviews, and focus groups. Once the initial codebook had been established, two primary coders and one interviewer independently coded transcripts, and agreement was tested. The three coders then met to discuss any issues with the codebook and coding content. Particular attention was paid to any codes resulting in less than 80% agreement. Following codebook testing, the two primary coders trained two additional coders. These four coders were responsible for the coding of all transcripts. Coding meetings were conducted on a regular basis with the qualitative investigator. Content of the meetings ranged from discussions of problematic codes to team consensus coding of select transcripts. As new codes were added, previous transcripts were coded for content related to the new codes and sub-codes. The codebook was audited and revised as needed; the audit trail was maintained in NVivo. The final codebook contained 42 thematic codes with "distance" and "transportation" being primary codes for this manuscript.

RESULTS

Survey Data

Mean patient age was 61.7 years, 94.8% were male, 91.7% were white, and 51% had Medicare (Table 1). The mean age for providers/staff was 48.1 years, 18.2% were male, 90.9% were white, and occupation was evenly divided among providers, nursing, and administrative staff. Patients traveled from 1 to 200 miles to a VHA primary care clinic, with an average one-way distance of 44.5 miles (Table 3). Table 4 lists frequencies of cited barriers to receiving care with "distance to drive" as the most frequently selected barrier by both patients and staff/providers. Other barriers frequently selected included challenges associated with travel, including "time," "limited transportation," and "cost/expense."

Interview Data

Qualitative results from focus groups and interviews with patients, providers, and staff confirmed survey data that

Table 3. Distance from Primary Care Clinic to Main Facility and Distance Patients Traveled to Primary Care Clinics by Clinic Site (Survey Data)

Primary care clinic site	Distance from clinic to main facility (miles)	Patient distance to primary care clinic (miles)		
		Range	Mean (SD)	Median
Iowa City VAMC and clinics		1–145	35.3 (38.1)	25.0
Iowa City, IA VAMC	NA	1–145	50.9 (43.4)	30.0
Galesburg, IL CBOC	111	1–120	32.7 (42.5)	16.0
Quad cities, IA CBOC	62	2–73	27.3 (25.6)	12.5
Quincy, IL CBOC	132	1–133	32.8 (42.0)	22.0
Minneapolis VAMC and clinics		1–200	58.9 (50.6)	50.0
Minneapolis, MN VAMC	NA	4–200	57.7 (52.2)	50.0
Hibbing, MN CBOC	210	1–200	62.3 (92.5)	24.0
Rice Lake, WI CBOC	113	30–120	66.7 (47.3)	50.0
Rochester, MN CBOC	84	40–100	57.1 (20.6)	50.0
Fargo VAMC and clinics		45–100	72.5 (31.8)	72.5
Bemidji, MN CBOC	138	45–200	115.0 (78.6)	100.0
Jamestown, ND CBOC	99	NA	NA	NA
Black Hills Health Care System		1–140	26.0 (43.8)	11.0
Eagle Butte, SD CBOC	141	NA	NA	NA
Newcastle, WY CBOC	80	NA	NA	NA
Rapid City, SD CBOC	32	1–11	5.0 (5.3)	3.0
Scottsbluff, NE CBOC	123*	4–18	9.3 (7.6)	6.0
Winner, SD CBOC	242	25–26	25.5 (0.7)	25.5
Total	Mean=120.5	1–200	44.5 (44.8)	30.0

**Average number of miles from main facility for all traveling clinics in the Black Hills system, which included Scottsbluff, Gordon, and Alliance*
CBOC=Community Based Outpatient Clinic, NA=not available for reasons of confidentiality

identified distance as the greatest access barrier for patients. Patient responses converged on several consistent themes revealing both gaps and strengths in VHA care for rural veterans. One of the most common themes comprised key patient factors that mediate the relationship between distance and quality of care. Below the themes are described in-depth (additional quotes in On-line Appendix).

Theme One: Patient factors influence the relation between distance and distance as a barrier to care. Veterans' age, health, and functional status were the most common factors influencing distance as a barrier to care.

- **Clinic Staff**: *"Distance is a big thing. Distance and the time to travel…a lot of them are elderly and can't travel long distances."*

Providers/staff often explained that many veterans lack access to transportation, or are no longer able to drive because of age or health status. Some rely on family or friends, but others lack social support to request assistance for time-consuming journeys. Although many rely on Veteran Service Organizations' (VSOs) van services, they may have difficulty reaching pick-up locations, and the organization may not have vans that are wheelchair-equipped and may not transport to where the veteran is receiving care. Even with adequate transport, many explained that the time on the road could be a barrier due to health status.

- **Clinic Staff**: *"Ours is pretty much an elderly population, so an elderly person who's having back problems or pain and going up to see an ortho appointment, spending three hours in vehicle's not an optimum thing to have them doing…and with their age they get tired, and it makes a full day out of… one appointment for them."*

Time and cost were another common factor influencing distance and access with some appointments becoming an 'all day affair.'

- **Clinic Staff**: "*Of course with gas prices fluctuating like they are, it's always a problem. People can't afford to fill their gas tank up to get here.*"
- **Patient**: *"You can basically count on spending the whole day with the van…I have chronic fatigue syndrome…it's just too tiring."*

Many providers expressed concern that patients delayed or avoided specialty care because of the challenges created by the distance to the nearest VAMC.

Because younger veterans have greater demand for women's health and mental health counseling and CBOCs may not be equipped to provide all services, greater travel to distant VAMCs is needed for some specialty services.

- **Provider**: *"We are very rural and very far away from any [VHA] gynecologist, so if I need something invasive done like say a lady has fibroids and needs a hysterectomy, I have to send her all the way to [the parent VAMC], and if they have small children, a 12-hour trip is a real pain in the butt, 'cause*

Table 4. Patient and Clinic Staff/Provider Perspectives of Barriers to Receiving Care for Rural Veterans

Barriers*	Patients (N=96)	Staff/providers (N=88)
Distance to drive	59 (61.5%)	75 (85.2%)
Time	35 (36.5%)	20 (22.7%)
Cost/expense	25 (26.0%)	46 (52.3%)
Limited transportation	24 (25.0%)	55 (62.5%)
Capacity of local VA facility	16 (16.7%)	34 (38.6%)
Coordination of care	13 (13.5%)	24 (27.3%)
Social support	9 (9.4%)	13 (14.8%)
Geographic barriers	9 (9.4%)	11 (12.5%)
History with local doctor	7 (7.3%)	9 (10.3%)
Other	8 (8.3%)	17 (19.3%)

**Percentage who indicated factors as barriers; factors are not mutually exclusive*

she just can't be gone, or if she's in school, it's very, very difficult, and it's been a real bone of contention with me."

In contrast, veterans able to drive reported far fewer burdens related to distance, and many discussed distance less as a barrier and more as a 'way of life' in rural areas.

- **Interviewer**: *"Has distance ever prevented you from seeking VA care?"*
  Patient: *"No, not really. Sometimes they made me go down to [VAMC], which is…between 80 and 90 miles from here."*
  Interviewer: *"And that trip was ok with you?"*
  Patient: *"Doesn't matter whether it's ok or not, if you gotta go, you gotta go. You learn just to deal with whatever they do to get the care that you need.… You know you can't have one [a clinic] on every block.…I've had to go to [VAMC] and they've furnished me transportation…or [I] take my own car or whatever…never having any problems."*

Interestingly, many veterans for whom distance was not a major barrier recognized that it could be for others and thus still identified it as the primary barrier for the population of rural veterans seeking VHA care.

Theme Two: Veterans and providers were frustrated by limited access to routine care for specialty and diagnostic services.

When discussing specific types of care, patients and providers/staff typically emphasized the barrier created by distance to diagnostic services (e.g., laboratories, imaging) and some outpatient specialty care (e.g., audiology, optometry, podiatry, gynecology, physical therapy, and dental). This frustration was compounded by the fact that many such services were available locally through non-VHA providers. By comparison, distance to more complex sub-specialty care (e.g., cardiology, neurology) was discussed infrequently.

- **Patient**: *"I wish you didn't have to go all the way to [VAMC] to get glasses… it's just that for something like eyeglasses that's kind of a drag to drive all the way up there for that …for dental I never have used it—I could get dental care if I wanted to but I've never utilized it 'cause I have to go all the way to [VAMC]."*
- **Provider**: *"One thing I think would be beneficial for them [patients] is if they could do the eye testing, you know simple things like that. Eye testing and the hearing testing, and locally…they have to drive three or four hours to get to a local VAMC to get this done."*

Many interviewees suggested some care is delayed or avoided due to distance. Although VHA does contract specialty services on a fee-basis with local providers, many VHA providers and staff expressed frustration with limitations on how often this is done and the level of control they have locally. One example was sending patients to a VAMC several hours away to receive an X-ray when it could be done at a local non-VHA hospital. Others reported multiple challenges regarding when and where patients are authorized to receive care outside VHA.

Theme Three: Distance to acute and emergency services is perceived as a potentially life-threatening barrier for many patients and a complex burden for primary care clinics.

Many patients and providers/staff discussed distance as a barrier to acute and emergency services provided at the nearest VAMCs.

- **Patient**: "*The only service I would like to see is late at night if we had an emergency we could go to a local hospital and have the VA pick that up, because I live 140 miles to the nearest VA hospital, and if I have an emergency it's impossible to get to a VA hospital.*"
  Interviewer: *"Has that distance ever prevented you from seeking care that you feel you may have needed?"*
  Patient: "*Ah, only during emergency situations.*"

Participants in all categories reported difficulty determining what non-VHA services would be covered.

- **Clinic Staff**: "*I wish it was easier for them to get their [acute] care locally…it's terrible to tell someone they need to go to the local ER and not be able to tell them that that bill's going to be covered, because everybody's got money hurts… some of them will just not go because of that reason. They're afraid they're going to have this big medical bill."*

Many providers/staff expressed similar concern that patients delay or avoid emergency care for fear of cost. One patient related that his wife called the VAMC while he was having a heart attack because he had no health insurance and they were concerned about where to go. He was instructed to go the nearest emergency room, but services were not paid by VHA and he was still paying for the bill years later. Providers/staff explained that many patients who lack access to emergency care will come to the CBOC instead, straining clinic resources and delaying critical treatment.

- **Clinic Staff**: "*We've turned into a triage walk-in clinic, although we're not…we're backlogged for appointments right now and we're not equipped to handle all the walk-ins."*

Theme Four: CBOCs are viewed positively for providing more primary care access points, but patients and providers/staff emphasized improving access to a broader range of services.

Participants uniformly discussed the construction of CBOCs as a great benefit to patients.

- **Patient**: *"We are kinda out in the boonies, but they got this clinic now and everything. That helps a lot, so you don't have to go all the way to [VAMC] for every little thing. So it's very nice that this is here."*
- **Clinic Staff**: "*They're grateful, all the ones that come here for the most part. There's always a crabby one, but for the most part everybody is grateful that we have it here, that they don't have to drive so far to go to be seen all the time.*"

When asked what they thought the top priority was for rural health within VHA, almost all discussed the creation of more access points. Some suggested the construction of more CBOCs to provide primary care, but patients and providers/staff more often emphasized the need to have local access to a broader range of services, potentially through fee-basing or occasional 'visits' from a specialist.

- **Clinic Staff**: "*They need to work on fee-basing more of the local services. That's a dollar issue, but that's what needs to happen.*"

Other than for emergency services, patients were less likely to volunteer the idea of contracting or fee-basing more VHA care, but almost all were receptive to the idea if mentioned.

DISCUSSION

Rural populations know travel to services is a part of their 'way of life,' and rural veterans accessing healthcare are no exception. However, under certain conditions, distance is excessively burdensome, and understanding the complexity of distance as a barrier can help VHA better serve rural veterans. Veterans and VHA providers/staff reported that distance is a significant barrier as related to three specific factors: (1) patients with limited health, functional, or financial resources, (2) for routine specialty and diagnostic services, and (3) in emergencies.

The most common types of distance barriers discussed pertained to patient health, functioning, and financial or time resources. The very factors that predict need for healthcare also make travel more burdensome. As health status of older veterans declines, they often require more frequent specialty care not available at CBOCs. Even with volunteer van services, such 'all-day affairs' can be physically taxing for chronically ill patients. In this study, veterans and providers/staff reported that some patients delay or avoid specialty care for this reason. Of note, many older veterans who are able to drive view distance more as a 'way of life' rather than a 'barrier.' Nonetheless, given that 44% of veterans are ≥65 years old, travel distance is likely to become increasingly salient as a barrier in this aging population.[18]

Qualitative interviews illustrate that the distance barrier is often viewed differently depending on the care required. Veterans perceived the same travel distance as more burdensome when seeking care for regular services available locally (e.g., laboratory, podiatry), when compared with specialty care (e.g., cardiology, neurology). This finding suggests that the travel required for specialty services may be viewed as a 'necessary' barrier, while the 'unnecessary' barrier created by distance could be greatly reduced—and patient satisfaction improved—by providing more basic services locally, whether through VHA or contracting.

Distance to emergency services clearly stood out from interviews as a barrier that may create undue risk for rural veterans. According to the Public Law 110–387,[19] VHA is required to cover emergency services within certain parameters. However, interviews revealed that patients and providers/staff are largely confused about where and when VHA will cover such services. Thus, the belief that veterans have to travel to a VAMC or risk incurring significant medical costs may be creating a false barrier resulting in delay or avoidance of care. This may be complicated by lack of local acute care for veterans that rely on VHA for most of their care. If faced with an acute, but not life-threatening illness, such patients may have no local option besides going to a CBOC not designed to accept walk-in patients. On the other hand, if veterans delay or avoid services, they may become more ill and further increase the need for emergency services.

Highlighting emergency, diagnostic, and specialty care, it is unsurprising that interviewees emphasized access to a broader range of services locally as more important than creating additional primary care clinics, particularly considering interviews were conducted at CBOCs that provided primary care, but not the services emphasized. Nonetheless, the emphasis on providing more local services highlights the central challenge of distributing finite resources to sparse populations. One strategy advocated by providers/staff—and welcomed by patients—is increasing contracted or fee-basis care with non-VHA providers. Not only would this provide a greater range of services locally, but by partnering with non-VHA healthcare systems that face similar challenges of distributing finite resources, this may help ensure a broader range of resources for rural veterans and non-veterans.

Although increasing non-VHA fee-basis care is frequently cited to improve access, potential negative implications of such expansion include varied veterans perspectives,[20] VHA's reduced ability to control costs and quality, difficulties with electronic medical recordkeeping, and further fragmentation of care. In prior work, veterans expressed concern over cost burdens to VHA, suggesting a sense of "stewardship" of limited resources.[21–23] This may reflect the unique place veterans have in society, having served in the military and now being recipients of a promised benefit. Ultimately, fee-basis care has been used to improve access, but unlimited fee-basis care would turn VHA into an insurance benefit and not the integrated healthcare system it is currently.

Regardless of how distance may be overcome, results suggest that 'distance' should not be operationalized as a homogenous concept that is simply or linearly equated to access. The same distance may represent a very different challenge to different veterans, or may be viewed as a 'barrier' for some services and a 'way of life' for others. Differences in average travel distance to VA facilities, in combination with local factors such as geography, weather, population density, and transportation infrastructure, reflect a heterogeneous rurality in which 'distance' may present barriers that vary in type and significance depending on the locale. Efforts to ensure access points within a certain drive time will be most useful if carefully informed by understanding the ability of local veteran populations to travel the distance required. As VHA expands rural healthcare and de-centralizes some services, greater de-centralized policy and decision-making may allow VHA to best respond to barriers created by distance and other factors intrinsic to the a heterogeneous rurality.

Limitations

First, the patient sample was restricted to a predominantly white, male, Midwest, VHA population limiting generalizability. Second, while we used a stratified sampling across eight states, aspects influencing rural health may differ in other regions. Third, subjects were not selected randomly from the entire clinic population, but were a convenience sample of patients and providers/staff available on the days the study team was present. Lastly, veterans not enrolled in VHA, or who fail to access VHA despite enrollment, were not potential subjects.

CONCLUSION

Results of this study support previous research that identifies distance as the most important barrier to rural populations seeking healthcare. It also provides an example of the heterogeneous ways in which distance may manifest as a barrier versus a 'way of life.' Veterans and VHA primary care providers and staff reported that distance is more often a significant barrier when the veteran has limited health, function, or financial resources; when routine specialty and diagnostic services are indicated; and in emergency situations. As VHA seeks to improve rural health, use of 'distance' in planning and

evaluation may be more useful not as a uniform measure of access, but rather as a measure that is informed and contextualized to better understand access for a specific population, service, and context.

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