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Improving Access to Noninstitutional Long-Term Care for American Indian Veterans

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Abstract

Home-based primary care (HBPC) is an effective model of noninstitutional long-term care developed in the Department of Veterans Affairs (VA) to provide ongoing care to homebound persons. Significant rural populations of American Indians have limited access to services designed for frail older adults. Fourteen Veterans Affairs Medical Centers (VAMCs) initiated efforts to expand access to HBPC in concert with local tribes and Indian Health Service (IHS) facilities. This study characterizes the resulting emerging models of HBPC and co-management. Using an observational design, key respondent telephone interviews ($n = 37$) were conducted with stakeholders representing the 14 VAMCs to describe these HBPC programs, and HBPC models were evaluated in relation to VAMC organizational culture as revealed on the annual VA All Employee Survey. Twelve VAMCs independently developed HBPC expansion programs for American Indian veterans, and six different program models were implemented. Two models were unique to collaborations between VAMCs and tribes; in these collaborations, the tribes retained primary care responsibilities. VAMC used the other four models for delivery of care in remote rural areas to all veteran populations, American Indians and non-Indians alike. Strategies to improve access by reducing geographic barriers occur in all models. Comparing mean VAMC organizational culture ratings, as defined in the Competing Values Framework, revealed significant group differences for one of these six models. Findings from this study illustrate the

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flexibility of the HBPC program and opportunities for co-management and expansion of healthcare access for American Indians and non-Indians, particularly in rural areas.

Keywords

rural; Department of Veterans Affairs; Indian Health Service

Home-based primary care (HBPC) is a model of noninstitutional long-term care developed in the Department of Veterans Affairs (VA) to provide ongoing interdisciplinary care to homebound persons. The program, as configured with staffing located at urban Veterans Affairs Medical Centers (VAMCs), has been demonstrated as effective at improving healthcare access and quality,¹ but the program has not been tested for underserved rural populations. Significant populations of American Indians have considerable disparities in healthcare access and outcomes.² The high prevalence of chronic diseases places this population at risk for more severe health problems and a greater need for extended care services than for the general population. Many American Indians may be eligible for healthcare services from the Veterans Health Administration (VHA) and Indian Health Service (IHS) and use both organizations to optimize resources and delivery of individual-centered care.^{3,4} Older American Indian veterans with comorbid conditions often travel to VAMCs for health care,⁵ but homebound older American Indian veterans living on rural reservations have limited access to health care. VHA is an entitlement program with standard benefits including institutional and noninstitutional long-term care services, but VAMCs are generally not located near rural reservations. IHS is not an entitlement program⁶ and does not offer a standard benefit for long-term care. To fill this gap in healthcare services, VHA funded efforts to develop HBPC in concert with local tribes and their respective IHS and tribal health facilities. This study characterizes the resulting emerging models of HBPC, including collaboration or co-management.

BACKGROUND

The U.S. government has a special relationship with the 566⁷ American Indian and Alaskan Native tribes that recognizes the sovereignty of tribal governments and the federal government's obligations and responsibilities to those tribes. IHS provides healthcare services to federally recognized tribes, which may choose to receive healthcare services directly from IHS or to contract or compact with the U.S. government to operate their own healthcare systems.⁸ (For clarity, the healthcare facilities of the former will be referred to as "federal direct" and the healthcare facilities of the latter two as "tribe operated" when organizational variation needs to be distinguished; both types of facilities are referred to using the general term "Indian Health.") Indian Health facilities provide health care at no cost to eligible tribal members living on or near their federal reservations, which are generally located in rural areas.

For more than 10 years, the VA and IHS have actively engaged in developing policies to align these federal healthcare organizations more closely and to coordinate their respective areas of expertise. One strategy to improve alignment is "active sharing of care processes, programs and services with benefit to those served by VA and IHS."⁹ One example of active

program sharing began in 2009 with VHA funding to expand access to HBPC for American Indian populations in collaboration with Indian Health facilities. More recently, in 2012, a national reimbursement agreement was established that allows VAMCs to reimburse local Indian Health facilities for delivering primary care services to veterans who are also eligible for the VA medical benefits package.¹⁰

HBPC is a unique and well-defined noninstitutional long-term care program available to veterans as part of the standard VHA medical benefits package.¹¹ HBPC is shown to reduce hospital and emergency department visits for veterans who have multiple complex chronic conditions and are unable to receive primary care in a clinic setting.^{1,12–15} The program's handbook¹⁶ includes a detailed description of interdisciplinary staffing, administrative requirements, and workload expectations, with the implicit assumptions that all resources would be available at urban VAMCs. The VA workload classification system that underlies VHA funding for patient care considers HBPC to be a type of complex supportive care.¹⁷ For each individual receiving a minimum of 10 HBPC visits per fiscal year, the host VAMC qualifies to receive the maximum per capita funding reimbursement that is allocated for this type of complex care.

Improving access to HBPC is briefly addressed in the HBPC handbook as opportunities for “innovative expansion” through satellite programs and telecommunications, as well as to serve special populations. A special grant to fund expansion of HBPC in collaboration with IHS was limited to 2 years for start-up costs, after which time the local VAMC would sustain program costs. Fourteen VAMCs expressed interest in participating in the funding opportunity; all received funding to expand HBPC through innovative collaborations with Indian Health. These VAMCs were located throughout the United States in 10 states. According to the recommended IHS standardized regional identifiers, these states are located in the east, southwest, northern plains, and Pacific coast. The details of each collaboration were left to the respective VAMCs.

This article describes the emerging models for HBPC and for co-management that developed in response to multiple local arrangements between VAMCs and Indian Health facilities. By observing this diffusion of HBPC, how programs evolved, and the relationship of these varied programs to VA culture, the goal of the current study was to gain understanding of how HBPC can be adapted to rural settings, collaborative healthcare delivery, and closer alignment of federal healthcare resources.

METHODS

A qualitative observational design was used for this descriptive study to characterize the HBPC innovation programs. Key respondent interviews were conducted to describe the programs. VAMC organizational culture was analyzed through responses on the annual VA All Employee Survey (AES) to describe the facilities. Distance was measured in miles from local IHS or tribe healthcare facilities to the nearest VAMC or VA Community-Based Outpatient Clinic as a proxy for healthcare access.

Interview data were collected in 1-hour telephone interviews with Key respondents who were knowledgeable about these HBPC programs. VAMC chiefs of staff or their respective designees identified up to six potential participants. All recommendations were used to construct a purposeful research sample, which was designed to represent each of the 14 VAMCs that participated in expanding HBPC to American Indian populations, various HBPC-related roles at the program level (e.g., program coordinator, primary care provider), facility-level leaders (e.g., service line chief, HBPC medical director), regional leaders (e.g., Veterans Integrated Service Network rural health coordinator, liaison for American Indian affairs), and a range of clinical (nursing, medicine, social work) and nonclinical (e.g., strategic planner) disciplines. Participation was voluntary, and chiefs of staff were not given information about who volunteered or participated in interviews.

Key respondent interviews were conducted using a semistructured open-ended interview guide informed by the Consolidated Framework for Implementation Research¹⁸ and by past surveys conducted by the VA Center for Implementation Practice and Research Support at the VA Greater Los Angeles Healthcare System.¹⁹ Respondents were asked to describe the structure and processes of the HBPC programs and to share their perceptions of and experience collaborating with Indian Health. These interviews were recorded with respondents' permission and transcribed for analysis using qualitative summary and matrix methods for cross case comparisons.^{20,21} When available, case descriptions were confirmed using program documents, such as formal agreements that established mutual obligations between VHA and Indian Health facilities.

Knowledgeable external reviewers were used to establish face validity for the characterizations and analytical typologies of the program models. Key respondents reviewed, confirmed, and corrected the descriptive summaries for their own programs orally at the end of each interview and afterward in response to a written description. The study's national advisory committee, comprising representatives from VHA and IHS leadership, HBPC staff, and VHA health services researchers, also reviewed the typologies.

Organizational culture was measured using the AES, an annual voluntary confidential survey of VA employees under the stewardship of the VHA Organizational Assessment Sub-Committee at the VHA National Center for Organizational Development. In 2009, the AES included 14 organizational culture items that were considered reliable and valid for managers and supervisors.^{22,23} The Competing Values Framework (CVF) informed these organizational culture items.²⁴ The CVF paradigm of dynamic archetypes measures organizational effectiveness along two primary and intersecting dimensions, which can be visualized as a quadrant: flexibility versus control and internal versus external orientation. Each quadrant represents one of four models of organizational culture: rational (control/external), hierarchical (control/internal), entrepreneurial (flexible/external), team (flexible/internal). These models are not discrete, and effective organizations demonstrate complexity, with a distribution of ratings in multiple and contradictory quadrants.²⁴ In studies of healthcare organizations, significant associations were found between facilities with higher ratings for the entrepreneurial and team cultures and a willingness to take risks and implement quality improvement programs, whereas the inverse was true for facilities with higher rational culture ratings.^{25,26}

AES results were analyzed from 2009, which was the baseline year of implementation for the HBPC expansion projects. The data were aggregated to the facility level for the supervisory and management categories at each of the 14 VAMCs to identify any variation in organizational culture that may be associated with the implementation and development of the HBPC expansion models. The AES uses a Likert-type scale, with higher ratings indicating greater agreement with an item. The means for each of the four organizational culture dimensions were calculated for each VAMC and then compared using the Wilcoxon rank-sum test to determine whether culture rating differences were present between sites that initiated an expansion, developed a certain type of model, or developed an innovation model with Indian Health. The HBPC program model that was initially implemented was used for the analyses, and staffing patterns were used as the primary criteria for categorizing the models.

The institutional review board at the VA Greater Los Angeles Healthcare System approved the study, and the Organizational Assessment Sub-Committee approved access to the AES data. Analyses of AES data were performed using Stata Statistical Software, Release 13 (Stata Corp LP, College Station, TX), and $P < .05$ was considered significant.

RESULTS

From a potential pool of up to 84 key respondents, 53 prospective respondents were identified, 48 were assigned to the study sample and invited to participate as study volunteers, and 37 volunteered. The final sample included at least one respondent from each of the 14 VAMCs, and 48.6% of respondents represented HBPC at the program level; 75.7% of participants were clinicians (Table 1).

Twelve of the 14 VAMCs established HBPC innovative expansion programs for American Indian populations. These programs involved collaboration with federal-direct and tribe-operated facilities. Although most VAMCs reached out to federally recognized tribes, one VAMC developed a program in cooperation with six non-federally recognized tribes that had no healthcare facilities. The remaining two VAMCs in the study worked with tribes and local Indian Health facilities to develop programs for clinical cooperation but did not initiate HBPC programs. In one case, the tribe preferred disease prevention and health promotion activities over HBPC, which was seen as potentially duplicative of the tribe's home care services. Although responsive to the tribe's request for monthly visits by VHA primary care providers to the tribe's health clinic, the onsite presence did not result in increased use of VHA services, and the program was eventually discontinued. In another case, changes in leadership, priorities, and policies may have affected initiation of HBPC, but efforts to establish other clinical relationships were continuing.

HBPC Models

Local adaptations to deliver services to American Indian veterans resulted in six HBPC program models, as described in Table 2. Two models were unique to collaborations between VHA and Indian Health: partnership and reimbursement to tribe (this model preceded the development in 2012¹⁰ of a national template for reimbursement agreements between VA and IHS). Both of these models were implemented with tribe-operated

facilities, and the tribe's healthcare organization was specified as the primary care provider of record. The remaining four program models were used to expand access to HBPC service delivery to American Indian and nonnative veterans in rural catchment areas: facility-based programs, streamlined staffing, mobile clinic, and purchased care. In these four models, patient preference determined the primary care provider(s) of record, and key respondents reported their perceptions that cost, availability of services or equipment, or convenience influenced preference.

These six models represent the range of HBPC programs that were developed and implemented. Several VAMCs tested more than one HBPC model, including VAMCs that collaborated with more than one tribe, and some programs transitioned from one model to another. One VAMC's plans to use non-VA purchased care to reach remote reservation areas could not be implemented because no home health agencies operated in that area, a situation that is not uncommon in rural areas.^{27,28} Instead a facility-based program with a 70-mile travel radius was implemented, although many parts of the reservation were still beyond this service area. Another VAMC replaced a mobile unit with a facility-based model after a Joint Commission review determined that the unit was not appropriate for home care. A third VAMC tested reimbursement to the tribe and then transitioned to a streamlined model after fewer than expected veterans enrolled for VHA health care. According to key respondents, lack of interest in VHA could be traced to the possibility of a required copayment for services, in contrast to the Indian Health programs, in which there are no copayments.

As shown in Table 3, distance was not associated with implementation of any particular HBPC model. Various strategies were used to improve access to HBPC by overcoming geographic distances between reservation communities and VAMCs. One approach was to design healthcare delivery in cooperation with Indian Health or tribal resources and facilities located in American Indian communities. In the reimbursement to tribe and partnership models, arrangements were made for local Indian Health clinicians, who were already in place on rural reservations, to provide certain types of care directly to HBPC patients, reducing the travel burden for VHA personnel while increasing access to home care. In the partnership and some facility-based models, Indian Health facilities or tribes provided space to the VAMC on a no-cost or lease basis, providing a satellite site from which to deliver HBPC services. A similar strategy was to purchase nursing services from local non-VHA community agencies.

Instead of concentrating services in an area, another approach to improve access deployed VHA staff over large geographic areas. One innovative strategy was to recognize a tribe's presence over 10 counties and 35,000 square miles and to designate HBPC nurses in multiple locations to provide access to the entire tribe. Another strategy to distributing VAMC resources closer to native communities was to allow VHA nurses to use their own residences as their home bases. Facility-based and streamlined models also boosted resources by scheduling VAMC-based primary care providers for monthly travel that might include overnight stays and by designating staff as backup coverage at various VHA clinics that were too distant from the reservation to provide regular care but would be available through telehealth consultation or would travel for occasional on-site home visits.

VAMC Organizational Culture and HBPC Model

The effect of VAMC organizational culture, as measured on the AES, was examined in relationship to initiation of HBPC expansion and to the analytical typologies of the program models. As shown in Table 4, VAMCs with higher ratings on entrepreneurial and team culture subscales implemented a facility-based HBPC model. These typically more-flexible cultures extended the urban VAMC program to expand access by increasing the HBPC travel radius from the parent station or by placing a team at a distant VHA or IHS facility. There were no other significant differences associated with VAMC organizational culture, including whether the HBPC expansion program was implemented, suggesting the importance of other local factors in developing the appropriate model to deliver home care in these distant and rural American Indian communities.

Perception of Value in Expanding HBPC Access

Respondents at the VISN, facility, and program levels described similar and positive perceptions of value of expanding access to American Indian communities; these comments were not related to the type of expansion model. In reflecting on the value of implementing HBPC expansions, key respondents often noted that their respective facilities had gained enrollment in VA benefits while providing care to an underserved population of veterans.

The gain has been the increased enrollment in the [VAMC] numbers. But the whole point behind targeting specific groups is not necessarily to help the VA, but to help that group that's been targeted. *VISN-level respondent* (Site 2, Model: Innovation with Indian Health)

[Implementing HBPC has] been an awesome way to connect us with the community and it connects us to another portion of the veteran population that perhaps typically didn't come into a VA clinic. *Facility-level respondent* (Site 10, Model: Facility-based)

Preventive care that HBPC provided reduced the need for hospitalizations for some veterans who would have been "three hours away from family and friends." HBPC improved access in rural areas with few local resources.

Many of my patients don't want to leave their home. They might be better served in an assisted living or a nursing home. In rural America, assisted living homes are few and far between as well as nursing homes. And even if they were more readily available, the clientele that I have could not afford assisted living. And even if they could they would not move from their home. Most of my patients are choosing to want to have end of life in their home. *Program-level respondent* (Site 9, Model: Other innovative for rural area)

An additional effect of these HBPC programs was improving the reputation of the VA and the federal government in native communities through individualized care.

I think it's added value in that I think we have developed a little bit of trust with our Home Based Primary Care program. *Facility-level respondent* (Site 6, Model: Facility-based)

I think it does mean something to [Native veterans], symbolically, that people from a VA took an interest in how they're doing, come out and check on them and just asked about how they're functioning. Because for a lot of years I think they really felt not valued by that [VA] system. *Program-level respondent* (Site 5, Models: Innovation with Indian Health and Other innovative for rural area)

I think it really helps the relationship between the Native Americans and not only the VA but the American government, a lot of suspicion there, I mean a lot of suspicion. So I think at least for us here it's just been tremendous to see that relationship develop. You know, some of these folks we met said before they'd never, ever put foot on a VA and now a lot of them come in here for specialty care. So I think getting rid of that stigma for these folks of the VA or even the government is just something you can't put a price on, that relationship, because now their kids, you know, and their grandkids will see and hopefully have a different opinion of the VA and the government. *Facility-level respondent* (Site 1, Models: Facility-based and Other innovative for rural area)

Delivering HBPC in Rural American Indian Communities

In nearly half of the interviews, key respondents recounted that the foundation for establishing these HBPC programs for American Indian veterans also depended on building long-term and trusting relationships between the VAMC and a tribe's government and Indian Health facilities. Without a previously established relationship, VAMCs needed to address a lack of faith that they were prepared to build a sustained and lasting benefit for tribal members beyond an immediate short-term grant-funded fiscal opportunity. VAMCs also needed to be prepared to make a commitment to respecting local culture, values, and community needs. Even for VAMCs with ongoing collaborations with other programs or services, consistent demonstration of involvement of VHA staff who projected an authentic and caring attitude in development of joint solutions to working together and delivering quality care facilitated the introduction of HBPC. As one respondent summed up:

...the importance of building trust over time, convincing people that you really were coming back. You really were going to do a job. That staff needed to have some perseverance to go back, to have the long drives, to be open to learning, and to be patient; that this isn't the kind of healthcare delivery where someone walks through the door and demands your service. *Program-level respondent* (Site 14, Model: Facility-based)

Because HBPC is configured to deliver ongoing non-institutional long-term care through multiple visits by interdisciplinary staff throughout the year, the VHA had a continuing presence and engagement in native communities. Other outcomes of engagement between the VAMC and tribes were planning and expansion of clinical collaborations beyond HBPC, even in the facilities that did not launch HBPC expansions during the study period. Clinical collaborations and resource sharing included telehealth for specialty and diagnostic care, new reimbursement agreements for primary care delivery by Indian Health facilities to eligible veterans, and formulary coverage.

Key respondents identified common challenges to delivering HBPC in rural areas, as well as unique challenges to delivering care to American Indian veterans. All programs anticipated driving long distances from a clinic to the homes of veterans, the possibility of poor road and weather conditions that might require high-clearance vehicles, lack of Internet connectivity, difficulty recruiting personnel, and lack of non-VA home health agencies for purchasing nursing services. Other challenges of working in native communities were unanticipated. In most cases, needs assessments were lacking to determine the number of veterans who were enrolled in VHA or eligible for enrollment, the number eligible for HBPC and living within the service area, the types of social or environmental support for homebound elderly adults, the acceptability of the HBPC program in the community, and the types of resources locally available from Indian Health organizations. Sustainment funding through the standard VHA allocation process requires a population census greater than the small number of vulnerable elderly American Indians that these HBPC expansion programs serve, so most programs also provided care to non-Indian rural elderly adults to fulfill workload justifications.

DISCUSSION

The collaborations for HBPC represent local strategies that enact federal policies to improve access to health care for American Indian and Alaskan Native veterans. The nature of HBPC, with its emphasis on case management and a holistic approach to the individual and family, was an ideal clinical program for VAMC to test co-management strategies. Multiple visits over the course of the year and involvement of interdisciplinary teams demonstrated the long-term commitment to sustained delivery of medical care and engagement in the community. Scaling the program to include the larger population of non-Indians in contiguous rural areas partially offset sustained operational costs. Thus, the expansion to American Indian populations should also be seen as part of the VHA expansion of services to rural veterans. The programs appear to have had positive effects on serving veterans in native communities, reducing stigma associated with federal programs and establishing working relationships with tribes and Indian Health facilities that are currently being elaborated and expanded. Future collaborations might continue to build on these sharing strategies to expand access to other healthcare programs, in alignment with VHA and IHS strategic goals.

Several models were developed and implemented, reflecting local resources, strategies to improve access to HBPC, and relationships with Indian Health facilities. Although all programs involved some degree of clinical cooperation, two programs designed to optimize sharing of clinical resources and expertise were established only with tribe-operated facilities, rather than with federal-direct facilities. The sample is not large enough to draw a significant conclusion about the types of collaborations most likely to be developed between VAMC and federal-direct or tribe-operated facilities, although the latter appear to be more successful in negotiating a relationship and in formally retaining primary care responsibilities. Another limitation of this descriptive study is the knowledge of key respondents about various aspects of planning and implementation. Continuing research will identify use and the proportion of eligible American Indian veterans that HBPC serves, as well as the individual-level clinical and cost outcomes of these six program models.

The emerging opportunities that coordination of federal and local resources present may have broader application for co-management of health care for the 36% of veterans who live in rural and highly rural areas and who are typically older and in poorer health than their urban counterparts.^{29,30} Perhaps the most-promising examples of interagency co-management are programs that support delivery of a full continuum of care by specifying a division of responsibilities based on clinical expertise.

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Table 1
 Characteristics of Key Respondents According to Site, Level of Responsibility, and Discipline

Site	Level of Responsibility and Discipline										
	Program				Facility				Regional		
	NP	RN	SW	Total	MD	NP	RN	SW	Other	SW	Total
n											
1		1		1	1				1	0	2
2		1	1	2	1			1		2	1
3	1			1	1				1	0	2
4			0	0					1	1	0
5	1		1	2			1	1		2	0
6	1	1		2	1				1	2	1
7		1		1						0	1
8	1		1	2						0	0
9	1		1	2						0	1
10			0	0		1				1	0
11		2		2	1				1	1	1
12	1		1	2				1		1	0
13		1		1						0	0
14	1	1		2					1	1	1
Total			18	18					13	6	37

NP = nurse practitioner; RN = registered nurse; SW = social worker; MD = medical doctor.

Table 2**Models of Home-Based Primary Care (HBPC) Expansion Programs in Collaboration with Tribes and Indian Health Service**

Model	Description
Innovation expansion programs unique to Indian Health	
Partnership	Partnership responsibilities and obligations were specified in mutual agreements that specified the tribe's healthcare organization as the primary care provider of record and included joint privileging of providers, sharing patient information in VHA and tribal electronic health records, fulfilling prescriptions at the tribe's formulary, providing office space and information technology support to the VA at the tribal facility, and delivery of HBPC services by the VAMC to tribal members
Reimbursement	Reimbursement agreement authorized under a memorandum of understanding between the VAMC and the tribe specified that VAMC would reimburse services that the tribe's primary care providers and associated health professionals provided, along with certain laboratory, X-ray, and other diagnostic services for HBPC patients living within the reservation boundaries. HBPC clinical notes and recommendations by providers would be incorporated into the separate VHA or tribal electronic health records as appropriate, with each healthcare organization under no obligation to accept the other's recommendations for treatment
Facility-based innovation expansion programs	
Facility-based	HBPC teams housed at a VAMC or a VA CBOC established a travel radius based on time, distance, or reservation boundaries, traveling from 65–100 miles one way, to provide home-based care. The NP or RN typically made home visits, and the other interdisciplinary team members make home visits or provide telephone consultation to veterans or to the VA provider. Another option was for a tribe or Indian Health facility to provide office space to serve as a home base for VA HBPC
Other innovation expansion programs for rural areas	
Streamlined	Staffing patterns are streamlined, and nurses are located in rural areas distant from a VAMC or CBOC; staff sometimes used their own residences as a home base. Staffing patterns were one of three configurations: 1 NP, 1 NP and 1 social worker, or 1 NP and 1 RN. Interdisciplinary team members are generally not part of the local HBPC team but are available from other HBPC teams through telephone or telehealth consultation; home visits would be rare for the extended team, which is located at considerable distances
Mobile clinic	Using a mobile clinic as a base, VA HBPC staff made home visits or provided care in the mobile clinic, which was enhanced with satellite coverage for Internet connectivity in these remote areas, giving VHA staff access to the electronic health record
Purchased	Purchasing care from licensed non-VA home healthcare agencies were options to provide HBPC services outside of a HBPC travel radius or to temporarily supplement streamlined staffing patterns to balance workload. HBPC staff may include these home care nurses in interdisciplinary team meetings as part of an educational process to diffuse the VA noninstitutional long-term care model

VHA = Veterans Health Administration; VA = Department of Veterans Affairs; VAMC = Veterans Affairs Medical Center; CBOC = community-based outpatient clinic; NP = nurse practitioner; RN = registered nurse.

Table 3

Characteristics of Sites According to Region, Distance Between Indian Health Service (IHS) or Tribe Facility and Nearest Veterans Affairs Facilities, and Implemented Home-Based Primary Care (HBPC) Model

Site	IHS Region	Distance, Miles ^a			Unique to Indian Health	Facility Based			Other Rural
		VAMC	CBOC	21–40		VAMC	CBOC	CBOC	
5	East	201–300	21–40	X	X				X
2	East	50–75	21–40	X					
1	East	<50	51–70			X			X
6	Northern Plains	76–150	41–50			X			
14	Southwest	50–75	41–50			X			
11	Pacific Coast	76–150	71–90				X		X
10	Pacific Coast	50–75	10–20				X		
13	Southwest	201–300	51–70				X		
3	East	50–75	41–50						X
7	Northern Plains	50–75	41–50						X
9	Northern Plains	76–150	<10						X
12	Southwest	76–150	41–50						X

VAMC = Veterans Affairs Medical Center; CBOC = community-based outpatient clinic.

^a Average mileage used for the following sites with multiple tribal and IHS facilities: 1, 6, 10, 11, 12, 13, 14.

Comparing Veterans Affairs Medical Center Organizational Culture Ratings and Home-Based Primary Care (HBPC) Expansion Models Using the Wilcoxon Rank-Sum Test

Table 4

Organizational Culture Dimension	Innovation Expansion HBPC Model						
	Initiation of HBPC Expansion			Facility Based		Unique to Indian Health	
	Yes, n = 12	No, n = 2 ^a	Z-Score	Yes, n = 5	No, n = 7 ^b	Yes, n = 2	No, n = 10 ^c
Entrepreneurial (flexible, external)	3.15	3.34	1.28	3.32	3.03	2.03 ^d	3.16
Team (flexible, internal)	3.35	3.46	0.73	3.55	3.20	2.68 ^e	3.36
Hierarchical (control, internal)	3.47	3.55	0.37	3.48	3.47	0.57	3.51
Rational (control, external)	3.59	3.77	0.20	3.68	3.53	1.22	3.60

^a Sites 4, 8.

^b Sites 1, 2, 3, 5, 7, 9, 12.

^c Sites 1, 3, 6, 7, 9, 10, 11, 12, 13, 14.

^d $P < .05$.

^e .01.