Experiences of Rural Non-VA Providers in Treating Dual Care Veterans and the Development of Electronic Health Information Exchange Networks Between the Two Systems

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EXPERIENCES OF RURAL NON-VA PROVIDERS IN TREATING DUAL CARE VETERANS AND THE DEVELOPMENT OF ELECTRONIC HEALTH INFORMATION EXCHANGE NETWORKS BETWEEN THE TWO SYSTEMS[*]

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ABSTRACT

Findings are presented from two focus group discussions with rural non-VA (Veterans Administration) primary care providers to better understand their experience with treating dual care veterans, those who receive care from both VA and non-VA providers. Participants reported challenges related to a lack of communication and coordination between the VA and non-VA providers. Participants agreed that improvements must be made to the current healthcare delivery model for rural dual care veterans to support seamless care. Two case studies involving VA-supported projects currently focused on bridging the two systems through the establishment of electronic health information exchange (eHIE) networks in rural areas are discussed. Challenges encountered while developing these networks and ways these challenges have been overcome are described. Successful implementation of methods designed to facilitate communication and coordination between the VA and non-VA systems is needed to deliver seamless care to rural dual care veterans in a timely and effective manner.

The highest concentrations of U.S. veterans, 18 years and older, living among the civilian population are found in rural counties (Hawthorne and Suh 2009). Research shows that veterans who live in rural communities have reported lower

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health-related quality of life scores than veterans living in urban or suburban communities (Hawthorne and Suh 2009; Wallace et al. 2010; Weeks et al. 2008). This disparity in health-related quality of life could be related to decreased accessibility to, and availability of, quality health care in many rural communities. As cited by Weeks et al. (2005:168), the VA's Capital Assessment Realignment to Enhance Services (CARES) process "found that in 2001 more than 35 percent of veterans had restricted access to primary care services because of distance to care barriers in 40 percent of the health care markets in the US." Weeks et al. (2005) found that veterans who were more than 65 and lived in rural settings within the VA's New England Health System used significantly fewer primary care, specialty care, and mental health care services compared with their urban counterparts.

The required travel distance to many VA health care facilities may contribute to veterans choosing to seek non-VA health care services within their local communities. Prior research has shown that the greater the distance patients have to travel to a VA Medical Center, or the more patients are dissatisfied with the travel time to VA care, the more likely they are to obtain health care services from other sources besides the VA (Borowsky and Cowper 1999; Hynes et al. 2007). A study conducted by the VA Information Research Center (2003) indicated that, of the 6.1 million veterans alive on 1/1/1999, 42 percent were eligible for both VA and Medicare benefits. Among dually eligible veterans, 47.8 percent of those who lived in rural areas were enrolled in both VA and Medicare (VIReC 2003). Weeks et al. (2005) found evidence that older rural veterans were substituting Medicare-funded emergency services for VA emergency services. That same study found that older veterans enrolled in both the VA and Medicare "obtained two to three times as much primary care through Medicare-funded sources as though VHA," no matter where they lived (Weeks et al. 2005:169). A study examining dual use of primary care found that 28 percent of veterans in their sample received care from both VA and non-VA primary care providers and that half the primary care visits made by these dual care veterans were to a non-VA provider (Borowsky and Cowper 1999).

Borowsky and Cowper (1999:274) stated that, "Cardinal objectives of primary care such as comprehensiveness and continuity are difficult to achieve for patients who receive care from multiple providers." Without proper communication between the VA and non-VA health care providers, fragmentation of health care services may create issues related to continuity for dual care veterans. To reduce risks to these patients it is important for VA and non-VA providers to develop a system that will allow constant coordination of care and sharing of medical information for dual care veterans.

The current health delivery model for rural dual care veterans involves a disconnect between the VA and non-VA systems and results in fragmented care. Currently, information does not flow seamlessly between the two systems and dual care patients' medical records with VA and with non-VA providers are left with gaps in information. The development of information exchange systems designed to improve care coordination between VA and non-VA providers would benefit both systems (Borowsky and Cowper 1999). The use of electronic health information exchange networks are one possible communication method currently being explored for this population. The establishment of these networks would allow patient medical information to flow seamlessly between the providers in both systems and would reinforce continuity of care for dual care veterans.

This article presents the findings from two separate qualitative pilot studies. The first study used focus group discussions to better understand the experience of non-VA rural primary care providers when treating dual care veterans. Focus group participants addressed challenges related to inaccessibility of VA medical records for rural veteran patients and a lack of communication and coordination between the two health systems. The second study included two case studies involving projects currently focused on bridging the VA and non-VA systems through the establishment of eHIE networks in rural areas. These case studies highlight challenges encountered while developing those networks and ways in which those challenges have been overcome. Together these pilot studies give the reader an in-depth understanding of the perceptions of rural non-VA primary care providers regarding the treatment of dual care veterans as well as an example of current efforts underway within the VA health care system to improve access to, and delivery of, quality health care to rural veterans.

RESEARCH DESIGN AND METHODS
Study 1: Focus Group Discussions with Non-VA Primary Care Providers

In 2009, researchers from the University of Nebraska Medical Center conducted focus group discussions with non-VA primary care providers in two different communities in rural Nebraska. Purposeful sampling methodology was used to select the communities in which the focus groups were held and the health care providers invited to participate in the study. Both communities were selected because they were located in rural counties with a high proportion of veterans in the population. One community housed a VA Community Based Outpatient Clinic (CBOC) while the other did not, both communities were located approximately 1.5 to 3 hours drive time from the nearest VA Medical Center. All primary care

providers (physicians, physician assistants, advanced practice nurses, and nurse practitioners) who practiced in a non-VA primary care clinic within 50 miles of the identified communities were invited to participate in the focus group discussions using a modified Dillman four-contact method (Dillman 2007). Focus group participants were provided dinner and offered a $100 dollar stipend to compensate for their time and travel.

Both focus groups were approximately 90 minutes in length. To better understand group composition and dynamics, basic demographic and personal background information were collected from each participant through a brief questionnaire. Both focus groups were facilitated by an experienced qualitative researcher who used a semi-structured guide to lead the discussion (see Table 1). Two other research team members assisted in the focus groups by running audio equipment, taking detailed handwritten notes, and by following along with the discussion on a flip chart. Both focus group discussions were audio recorded, transcribed verbatim, and analyzed using NVivo Qualitative Analysis Software (QSR International's NVivo 8).

A modified framework approach was used by two qualitative researchers to code and analyze the focus group transcripts (Pope, Ziebland, and Mays 2000). This approach uses a deductive process to identify common categories, in this case informed by the questions used during the discussion, and then further defines those categories through inductive processes. Each transcript was coded independently by both qualitative researchers, inter-coder reliability was examined, and areas of disagreement were discussed and resolved through an iterative process. This study was approved by the University of Nebraska Medical Center's Institutional Review Board (IRB# 324-09-EX).

Study 2: Case Studies Exploring Health Information Exchange

In 2010, the authors used a case study approach to learn from the experiences of health care delivery organizations that were in the process of developing and implementing innovative methods of improving communications between VA and non-VA providers who were treating rural veterans. The authors focused specifically on projects funded by the VA Office of Rural Health in FY09. Two projects were selected because of their involvement in innovative practices in eHIE between the VA system and non-VA providers and because of the progress made in their projects at the time of this study. To broaden their knowledge base, the authors also conducted an interview with an expert in the field who had additional relevant experiences.

TABLE 1.   SEMI-STRUCTURED FOCUS GROUP DISCUSSION GUIDE

Some of you may see patients who are veterans, some of you may not, or may not know if you do. I ask that you think about patients who are veterans and tell me what is unique about their situation?

> Probe: *What is unique about them having access to both VA and non-VA health care services?*

Does having access to both non-VA and VA providers make it more difficult to treat these patients? If so, in what ways?

> Probe: *How does coordination (or lack of) with VA primary care providers affect your practice?*

How do you alter a care plan when treating a patient who also receives care from a VA primary care provider?

> Probe: *What considerations need to be made when treating these patients, because of their access to VA services?*

If a new health care delivery model were to be developed that would facilitate and enable VA providers and non-VA providers to coordinate care for veterans, what elements would you like to see included in the structure of this model?

> Probe: *Are there any elements of the current model that you like and would like to see carried over in a new model?*
> Probe: *What functions would you like to see carried out by this new model?*
> Probe: *How should the new model be structured, including what use of electronic records?*
> Probe: *If the VA were to participate in a regional or statewide health information exchange, would that be of benefit to your practice?*
> Probe: *Would this model design be helpful to you?*
> Probe: *Would you like to see this type of model implemented?*

What issues, concerns, or frustrations do you have in working with the VA health system?

> Probe: *What could be done to minimize these problems?*

Project principle investigators were contacted and invited to participate in the study. They were encouraged to invite other staff members or partners who were knowledgeable about the project to also participate in an interview. Telephone interviews were conducted using a semi-structured interview guide (see Table 2).

Participants were asked questions about motivating factors, barriers, or challenges encountered throughout the process and ways in which they were able to overcome or address barriers or challenges.

TABLE 2.   SEMI-STRUCTURED INTERVIEW GUIDE

What motivated the decision to embark on this project? Were there specific requests from clinicians for improvement in communications between private practice physicians and VA physicians?

Were there antecedents to the design of this project, such as breakdowns in communication, increases in the volume of communication between providers that seemed to warrant electronic communication, or discussions about how to manage patient care more effectively?

Have you experienced or observed hindrances or helps in improving the mechanics of communication? If yes, please describe them and how you have or will address the hindrances or capitalize on the helps.

Have you experienced or observed hindrances or helps in improving the ease of communication, including formatting and content? If yes, please describe them and how you have or will address the difficulties or capitalize on the helps.

All interviews were audio recorded and reviewed. Detailed summaries for each interview were prepared and analyzed using a modified framework approach to identify common themes within and across interviews associated with the experiences related to each project studied. Project narratives submitted to the VA Office of Rural Health were reviewed and analyzed inductively to triangulate the interview findings. This study was approved by both the University of Nebraska Medical Center's Institutional Review Board (IRB# 089-10-EX) and the VA Nebraska Western Iowa Health Care System Institutional Review Board (IRB# 00674).

FINDINGS FROM STUDY 1: FOCUS GROUP DISCUSSIONS WITH NON-VA PRIMARY CARE PROVIDERS

Population Studied

A total of eleven non-VA primary care providers participated in the two focus group discussions. Information collected from the intake questionnaires indicated that nine participants were MDs and two were mid-level providers. All eleven

participants had been practicing rural medicine for more than ten years, two participants were veterans themselves, and one participant was also a VA-credentialed physician. All participants reported that they treated patients who were veterans and that veteran patients made up, on average, approximately 7 percent of their total patient panel (this ranged from 4 percent to 13 percent).

Non-VA Primary Care Providers' Experiences with Dual Care

Rural non-VA primary care providers reported that veterans who have alternative forms of health coverage, most often Medicare, pose fewer administrative barriers to receiving care than those solely covered by the VA. Participants reported that most rural veterans present at non-VA facilities during evening and overnight hours for care of acute conditions, making it more difficult to treat these patients due to a lack of medical history and inaccessibility of VA providers and VA patient information during off-peak hours.

> It's more disconcerting in that the local VA clinic, they are there and they get their blood pressure medicine and do their routine lab and that cardiac care is a big deal. When they get chest pain and they have an event, they come to us in ER and accessing then 'what are you on?' and 'what are you taking?' and 'what were your recent levels?' becomes impossible. There's no way to tap into the system, we have no way to access their information. (Rural non-VA provider from community with local CBOC)

Participants reported that patients are being used as intermediaries to bridge the gap in communication between VA and non-VA providers. Unfortunately, participants believed that many patients themselves are confused about the care they receive. Sometimes, the patients may not be the best source of information about the details of their medical care, as illustrated by the example below:

> The list of medications, the patient, if I'm lucky, they bring in their pill bottles, but most of the time they don't and well, 'I'm on the green pill, I'm on the yellow pill, I'm on the pill for my heart, I'm on a pill for water' —whatever. A list of medications is really very important. A very picky thing is immunizations – when was their last pneumonia shot? When was their last tetanus shot? Do they get the flu shot? You ask them and they say, 'well they gave me some shots but I'm not sure what it was but they told me I was okay'. Well, did they get Zostavax? I don't know. It's very picky but

that's one of the things. When was their last colonoscopy? Or it's been a few years ago. Well, what did they find? Well they said it was okay. Well when's your next one? Well, they said they'd call me. You don't know. (Rural non-VA provider)

One participant described his frustrations with added burdens placed on patients who were responsible for obtaining their own medical records from the VA to share them with their non-VA providers. Other participants expressed confusion about what patient health information required patient consent to be shared.

I've had a couple veterans tell me when I ask them to send me their information when they go to the VA, and I have been told by them that they need to sign a consent each and every time they go in in order for the information to come to me even though I have been his doctor for the past 10-15 years, each and every time he goes in he tells me he has to sign something in order to get the information to me. Why doesn't one consent work and have the information automatically sent to me?" (Rural non-VA provider)

Dual care of rural veterans creates confusion among the rural non-VA providers. Primarily, participants were confused about the boundaries between the two systems concerning primary care delivery. They wanted more clarity, for both the patients and the providers, about which aspects of care non-VA providers were expected to provide for the veterans and which aspects of care the VA would provide to ensure more comprehensive care to the veteran patients.

When [the VA is] managing part of the patient's care, such as Coumadin and the rest of the time, I am taking care of the other eight problems with the patient that the VA won't manage it's very confusing. Then [the veteran] comes in and I suggest they make a change, [the veteran] goes to the VA the next day and the VA changes my work because I prescribed on a recent medication. It is very confusing when you have two parties managing the same disease process and they don't understand the rest of the patient's care. (Rural non-VA provider from community with local CBOC)

The lines of what we're really going to do and how we're going to interface with primary care need to be defined here because it's really confusing and the patients are the most confused. How patients are to interact with us needs to be clarified. (Rural non-VA provider from community with local CBOC)

Rural non-VA providers reported altering their normal care plans when treating veteran patients to accommodate services provided to these patients by the VA. Alterations included: prescribing medications on the VA formulary even if they are not the provider's preferred medications, forgoing important prevention screening with the assumption that it is being done by the VA, and delaying necessary procedures so they can be done at the VA at a lower cost to the patient. One participant explained how a false assumption resulting from a lack of communication and coordination led to an adverse outcome for the veteran patient.

I mistakenly assumed he was getting health care [at the VA] and he ended up with a pretty advanced colon cancer that I hadn't been screening for. It was a completely false assumption because all he was doing was going down there to get meds. (Rural non-VA provider)

Challenges with Dual Care: Communication and Coordination

Participants unanimously agreed that there is a need for coordinated care between the two systems. One primary concern raised by rural non-VA providers was the lack of communication, and consequently a lack of coordination, between the VA and the non-VA providers when caring for shared patients. Participants also recognized the shared responsibility of communication and coordination regarding their veteran patients.

The problem is there is no coordination. There is no communication and it doesn't just go one way - it goes both ways; We don't send the VA copies of our discharge notes, copies of our office notes and let them update us with what's happening with the patient; and vice versa. (Rural non-VA provider)

The VA is a difficult system and they are doing the best they can. The lack of coordination between the two systems as far as medication goes is dangerous for the patient. (Rural non-VA provider from community with local CBOC)

Participants reported that the lack of access to complete patient medical records and medication history is potentially dangerous for the patient. They noted that when they do obtain patient medical records from the VA, they are often voluminous hard copies of electronic medical records within which relevant medical information is buried and retrieving important information becomes a challenge, especially in an emergency. Another challenge resulting from a lack of coordination between the two systems reported by several participants is receiving authorization from the VA to transfer veteran patients from a non-VA facility to a VA facility. Participants also reported complications resulting from the required use of VA preferred Emergency Medical Services, which often come from outside the community and lead to lag time before transports can occur; creating liability concerns for the non-VA providers.

> You call, you get an okay to transfer them and then you wait for the ambulance and then wait for the person to come and I've literally seen people not make the trip because of that reason. The transport issue. (Rural non-VA provider)

Recommendations Regarding Dual Care

Focus group participants voiced frustrations and confusion caused by the current health care delivery model for rural veterans and expressed a need for change. Non-VA providers from both focus groups appreciated the opportunity to provide reactions to the current dual care system. Participants believe that if dual care of veteran patients is to continue and be successful there has to be continuous communication and opportunity for open discussion and negotiation.

> So this conversation severely needs to create dialogue. There needs to be some communication between the two systems on an ongoing basis because of the patient. You can't be an advanced medicine doctor and take care of the acute part of the patient. Right now that's a huge problem because they're trying to be the divide and when there's no communication and those of us on the acute side are really handcuffed and again the patient suffers. (Rural non-VA provider from community with local CBOC)

Participants provided recommendations related to communication and care coordination, the current primary care delivery model, and VA specialty care. One recommendation was to allow the rural non-VA primary care providers to be the

sole source of primary care for rural veterans. Participants believed that rural veterans would have more continuity of care if the local non-VA provider served as the veteran's primary care medical home. The responsibility of patient case management and care coordination could be shared or negotiated between the two systems, perhaps redefining the role of rural VA CBOCs to serve as care coordinators. Participants explained that the role of the VA for rural veterans should be to provide specialized services. Participants expressed willingness to work with the VA to develop various contracting and/or reimbursement mechanisms to support this model as well, and to comply with evidence-based practice and VA reporting requirements.

> Primary care needs to be handled by local primary care providers with the VA having some kind of subcontracting to reimburse – give the veteran the benefit for being a vet but let them see a local primary care provider. Overall you're much better off to do primary care locally and then to refer to the specialized areas. (Rural non-VA provider from community with local CBOC)

Participants believed that clarification of the expectations and boundaries regarding their role in dual care could reduce some barriers to communication and coordination. Participants recommended that the VA work to establish better communication between the two systems and develop ways for non-VA providers to gain access to dual care patients' VA medical records.

> The system needs to be more efficient. Otherwise, if [the veterans] have a PCP outside of the VA, labs, x-rays, test results need to be in a system we can access. (Rural non-VA provider from community with local CBOC)

While all participants supported increased communication and coordination between the two systems, several participants expressed mixed feelings over the use of electronic health information exchange methods primarily because their practice does not currently utilize an electronic medical records system. Participants acknowledged the importance that electronic health information exchange networks will have in future health care delivery and asked that if these networks are developed and used to exchange communication between the VA and non-VA providers that they transfer information quickly, without much hassle, and contain medically relevant information in a user-friendly format.

> Make sure you put in pertinent abnormals, all the procedures that were done, the discharge diagnosis with what your plan is, and who they're going to follow up with. (Rural non–VA provider)

Lack of infrastructure to support electronic health information exchange systems was a concern for several rural non-VA primary care providers. Another concern was the ability to establish a reliable network connection, which is a common problem for rural practices. Nevertheless, the establishment of an effective means of health information transfer is necessary to address many concerns and frustrations voiced by the rural non-VA providers who participated in the focus groups. Therefore these challenges must be overcome if dual care of rural veterans is to continue as the delivery model for this population. Access to VA health records is paramount to the ability of rural non-VA providers to treat dual care veterans in a timely and effective manner. The VA recognizes this need, and has been funding demonstration projects to develop specific protocols and platforms for sharing medical information. The next section of this article focuses on two of those projects.

FINDINGS FROM STUDY 2: CASE STUDIES EXPLORING HEALTH INFORMATION EXCHANGE
Cases Studied
Table 3 provides a brief description of the cases selected for this study informed by the project narratives as submitted to the VA Office of Rural Health. Findings also include responses from an interview with an expert in the field of primary care delivery for dual care veterans, who also has experience with the establishment of health information exchange between the VA and non-VA systems.

Development of Expectations of Projects Based on Applications and Early Experiences
Both projects studied were developed to improve access to, and quality of, primary care services for veterans in rural areas. Both projects included rural sites in which no VA providers were already offering services, and from which travel to a site offering VA services could be a potential barrier to primary care. Both projects began with the supposition that care provided by local community physicians would be improved through sharing of the electronic medical record (EMR) generated by the VA system. According to one application narrative, the lack of information exchange between the VA and non–VA primary care providers

Table 3: Description of Cases Studied

"Partnering with Primary Care Providers" (FY09RFP-V20-D)	The purpose of this project is to increase access to VA primary care services for rural veterans. This project involves contracting with select private providers in rural areas to provide primary care services to local veterans on a per member per month payment system. Rural private providers who are selected to participate in this project receive VA credentials and access their veteran patient's VA medical records through T1 lines connecting the rural providers to the VAMC in Spokane, WA.
"Health Information Exchange in Rural Southeast Utah in Support of Better Access to Statewide Information" (FY09RGP-CHIO-A)	The purpose of this project is to improve the quality of health care for rural veterans through the sharing of medical information between VA providers and non-VA providers, more specifically, to establish eHIE between the VAMC in Salt Lake City, UT and a non-VA facility in Mohab, UT. This eHIE connection uses an electronic medical record (EMR) system that is capable of exchanging summaries of veteran's health information through the Utah Health Information Network (UHIN) via a bridge to the Nationwide Health Information Network (NHIN).

"puts rural veterans at risk for receiving sub-optimal and, in some cases, potentially harmful care."

During the time of this study, neither of the project sites had yet established HIE connections. In one case the content of information to be exchanged was being determined, with an expectation of completion during calendar year 2011. The other site was developing contracts for use by the VA and local community providers as an early step toward developing information exchange. Despite the early stage of development of each project, project staff, and the external expert, could offer insights into their experiences thus far and give the authors a better understanding of the challenges they had encountered during the early stages of development, as well as factors that had assisted them in resolving those challenges.

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Challenges to Overcome

Respondents could report on early experiences with their projects. Many difficulties reported by the interview respondents were perceived to be attributable to operations within the VA including: 1) the processes involved in contracting, credentialing, and establishing connections within the VA are time consuming and fragmented; 2) the rules regarding patient privacy/confidentiality have become overly protective to the point that efforts to share patient medical information between systems have been paralyzed; 3) the VA culture is that of a closed system that is risk averse and hesitant to share patient information with anyone outside the system; and 4) the personnel responsibility of information exchange related to dual care has not been standardized within the VA. One respondent reported that sites that have had success in sharing information between systems and co-management of dual care veterans have designated personnel to manage these tasks.

Other reported difficulties were due to either the nature of developing and implementing new complex systems or the challenge of establishing new working relationships, including: 1) planning and development involved in eHIE require decisions to be made about format, content, and parameters of information to be exchanged; 2) use of different EMR software by the various providers results in the inability of systems to crosstalk and transfer information effectively; and 3) confusion exists between VA and non-VA providers about what medical information requires patient signature to be shared.

Facilitators Leading Toward Success

Some elements that were reported to have contributed to success were tied to the interaction of VA and private sector professionals, and between both of those sets of providers and their patients. One element of success is that the opinions of those in the community (i.e., patients and local providers) are incorporated into planning and development. For example, one respondent holds town hall meetings in target rural areas to solicit reactions from the local health care providers, the local veterans and their families, and the larger community.

Based on early advances, prerequisites for success include designing processes that promote routine and frequent communications and use of health information through electronic exchange. One reported prerequisite for success is that regular communication is established early on. Regular communication includes regular meetings that involve all the key players (IT, lab, health care administration, etc.). The purpose of these meetings is to troubleshoot or brainstorm on issues related to IT, security, and overcoming obstacles. Another component of regular

communication is to clearly define and communicate the expectations of all those involved. One project has found successful progress through designating Clinic Site Managers to help facilitate contracting and coordinate eHIE activities through regular communication with the project staff.

Finally, as is true in most adoptions of new technology and/or processes, the persistence of project leaders is required. Leadership activities have to include nurturing relationships that will contribute to continued development of the new systems and taking next steps in design and use. One respondent reported placing regular personal phone calls to state representatives and senators to provide them progress updates and to maintain their support for the project.

The VA was one of the first health care systems to operate a paperless system. Because of this, the use of electronic information exchange methods is a preferred method within the VA. One respondent pointed out that the backbone of the VA EMR is public software and can be used by others to set up a standardized data exchange. As displayed by the project taking place in Utah, utilizing already-established state health information exchange networks and further connecting them to the NHIN could be a model replicated by other states and, over time, could possibly be widely implemented across all sites. Other possibilities, such as the project taking place in Washington, might include credentialing agreements with local private providers to gain access to VA EMRs for dual care veterans, however broad implementation of this model may create more burden on behalf of the VA given the time required to establish each provider contract and credentialing and the effort required to establish the connection.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH
Study 1: Focus Group Discussions with Non-VA Primary Care Providers

Researchers had trouble with the recruitment of participants due to the limited number of primary care providers in the targeted areas, resulting in a small sample size of non-VA primary care providers. Several other non-VA primary care providers expressed interest in participating, however due to schedule conflicts and required travel time they were unable to participate. Because of the small sample size, researchers may not have reached full saturation of the data. Another limitation of this research is the inability to generalize findings beyond this sample of rural non-VA primary care providers because they may not represent other rural non-VA primary care providers outside this group.

The results from this study provide a better understanding of the experiences of eleven non-VA primary care providers in rural Nebraska in treating veterans.

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These rural non-VA providers encountered barriers when treating dual care veterans, which inhibited their ability to treat their veteran patients in a timely and effective manner. Additional research in this area should include further discussions with other non-VA providers to better understand the impact that treating dual care veterans has on their practice and usual care plans. Future research should also capture the experience of VA providers with treating rural dual care veterans to achieve a comprehensive understanding of the issues presented in the focus group findings. Researchers should continue to assess the overall impact dual care has on the quality of health care received by rural veterans as well as the impact on health outcomes. Researchers should also continue to explore and test alternative forms of health care delivery for this population of patients.

Study 2: Case Studies Exploring Health Information Exchange

The most notable limitation to the second study is the limited experiences of the projects within the period of the study. The two projects in the study were still in the early stages of implementation and therefore had not yet demonstrated overall success of establishing eHIE networks between the VA and non-VA systems. The delayed experiences within the projects studied limited the researchers' ability to effectively characterize and understand the nature of eHIE, involving providers within and outside the VA system who are caring for shared patients. While researchers learned about the barriers experienced by these projects in their early months of activity, they were less able to understand the bridges to successful communication of health information needed for timely diagnosis and treatment of dual care veterans.

The results from this study highlight the need for further research focused on the design, development, and implementation of eHIE, specifically in rural locations. Best practices in eHIE developed within urban settings should be examined and further adapted to fit rural settings to improve coordination of care for rural dual care veterans by enhancing the involvement of local non-VA primary care providers in providing continuous, comprehensive services through coordination with VA providers.

CONCLUSIONS

Both studies presented in this article relate to the treatment and delivery of health care to rural veterans who receive health care from both the VA and their local non-VA providers. The discussions with non-VA primary care providers about their experience highlight the frustrations and issues associated with a lack of

communication and coordination between the two systems when treating dual care veterans. Participants expressed a need for improvements to the current health care delivery model for rural veterans that would allow for constant coordination of care and sharing of medical information for these patients. Improvement of communication and coordination could be accomplished by electronic health information exchange networks.

Discussions with individuals currently working to develop a health information exchange between the two systems highlight challenges encountered by those developing such networks. Many issues raised by the non-VA primary care providers who participated in the focus group discussions were echoed in the project narratives and interview responses as motivating factors and known concerns that need to be addressed. Support for communication that facilitates seamless care for dual care veterans is said to be needed.

Given its experience developing and using information systems, the VA can provide a platform and leadership to integrate the health care veterans receive from the combination of non-VA and VA providers. The projects included in the second study are one example of the VA's efforts to address issues related to dual care for rural veterans and its support for development and testing of innovative methods such as eHIE models. Continued collaboration with, and inclusion of, non-VA providers in efforts led by the VA should promote a successful solution and ensure continuity of care for rural dual care veterans by addressing the issues reported by the local non-VA providers who participated in the focus groups.

With the enactment of the Patient Protection and Affordable Care Act change in health care delivery that better coordinates services across the continuum of care has received a significant boost. This research has pointed to a major contribution that the VA can make for the population it serves, to improve coordination of care across providers in different systems of care. Effective exchange of information to improve timeliness of services while minimizing unnecessary duplication of diagnostic and treatment services is needed across all systems of care. Doing so for veterans can lead to best practices for replication. Given initiatives in care coordination underway as sponsored by large commercial carriers and soon the Medicare program, the VA and non-VA providers may learn from how the challenges raised in this research are met in other settings.

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