

Rural Promising Practice Issue Brief: Telehealth Collaborative Care for Rural Veterans With HIV Infection

Executive Summary

Human Immunodeficiency Virus (HIV) weakens the immune system by destroying white blood cells that fight disease and infection. Symptoms of HIV range from flu-like aches and pains to skin rash, weight loss and fever. If left untreated, HIV can develop into Acquired Immune Deficiency Syndrome (AIDS), a much more complex illness with a wide range of complications and symptoms.

An estimated 1.2 million HIV patients live in the United States. The U.S. Department of Veterans Affairs (VA) Veterans Health Administration (VHA) is the largest provider of HIV care in the country, with approximately 26,000 Veterans in care in 2013.

As HIV treatments have become more effective, persons with HIV infection are living longer. As a result, the population of HIV patients is increasingly expanding and aging. With average life spans near normal, HIV patients often acquire other conditions that primary care physicians are best suited to address, such as cardiovascular disease and diabetes.

But historically, people with HIV have better health outcomes when they receive care from HIV specialists. This leads Veterans with HIV to bypass primary care doctors, relying on their specialty clinicians to treat primary health care challenges. HIV specialty clinics are struggling to accommodate this growing population.

In addition, accessing a specialist is not always easy. Historically, rural Veterans with HIV travel long distances to infectious disease specialty clinics to receive all or most of their care.^{1,2} In an effort to increase the accessibility and comprehensiveness of care for rural Veterans with HIV, the VA Office of Rural Health (ORH) funded a pilot telehealth collaborative care program that was developed and tested by the Veterans Rural Health Resource Center-Iowa City. Telehealth collaboration can put fragmented networks of primary and specialty care providers in touch. Clinical video telehealth allows for a more coordination between distant HIV specialists and local primary care teams, making the responsibilities of each explicit. Then, a central nurse care manager helps Veterans navigate the shared-care model. Physicians also create a searchable disease registry to better track and follow up about HIV-related and unrelated health status indicators. This VA program links specialty clinicians in Iowa City with VA Community Based Outpatient Clinics (CBOCs) that serve Veterans in rural areas.³

This pilot program indicates that the telehealth collaborative model maintained high-quality care and was well-accepted by Veterans and primary care providers.³ The pilot study showed reduced patient travel time and potential for improving care of comorbid conditions, thus making it a Rural Promising Practice.

Who Can Use This Rural Promising Practice?

HIV specialists who treat patients from rural areas, as well as leadership in rural health systems, can adopt this Rural Promising Practice. This approach can facilitate care to Veterans and non-Veterans, although facilities within the VA health network are particularly well suited to implement this approach, given their established telehealth infrastructure, network of Community Based Outpatient Clinics (CBOC) and electronic health record sharing systems. This model relies on personnel and resources that are routinely available at VA medical centers and CBOCs, and does not require additional hiring or infrastructure investments.

This Rural Promising Practice can support patients with diagnosed and well-controlled HIV. Once HIV has progressed to AIDS, the disease requires much more complex care not suitable to telehealth.

Need Addressed

For those with adequate access to care, effective antiretroviral therapy (ART), which typically consists of the combination of at least three antiretroviral drugs to suppress the virus and stop the disease progression, has transformed HIV infection from a fatal disease into a complex, chronic condition.⁴ Many modern courses of HIV treatment involve taking just one pill per day. It is now estimated that an individual who initiates ART for HIV infection at age 20 will live an additional 50–55 years, an essentially normal life span.⁵

People with HIV experience better outcomes when they receive care from providers with specialized expertise in HIV medicine.⁶ HIV patients also report facing less stigma when seeking care from HIV specialists. These factors mean many patients with HIV opt to bypass primary care providers in favor of consulting with their trusted specialists.

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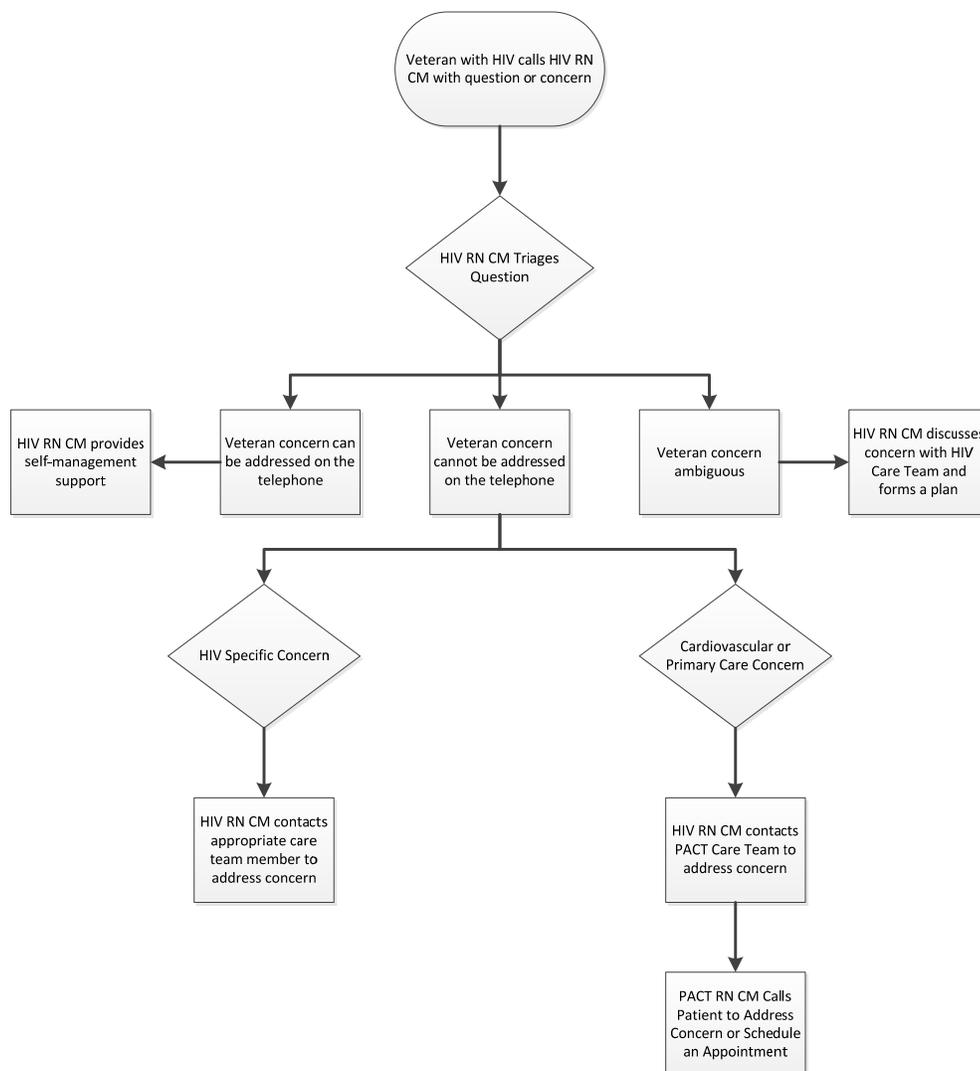
But HIV specialists are not trained in treating many of the additional conditions Veterans present with. People with HIV are aging and have high rates of comorbid (one or more) conditions that require comprehensive primary care. In particular, HIV infection is associated with an elevated risk for cardiovascular disease, which necessitates close attention to control cardiovascular risk factors such as hypertension, diabetes, dyslipidemia and tobacco use.⁷ Half of Veterans with HIV have high blood pressure, and their quality of life and health status is increasingly likely to be determined by cardiovascular risks, rather than HIV.

Additionally, specialists are not always convenient for rural patients. In large cities, HIV specialty clinics deliver ART for HIV infection with co-located primary and preventive care for comorbid conditions.⁸ However, this centralized delivery model does not translate to rural and outlying urban areas where access to HIV specialty clinics is limited. About 16 percent of Veterans with HIV reside in rural areas and 21 percent live more than a one-hour drive from the nearest infectious disease specialty clinic.⁹ Travel is burdensome, especially as rural Veterans with HIV age and cope with other conditions.

Thus, several factors contribute to the pressing need to find ways to increase access to comprehensive primary care for rural Veterans with HIV. This Rural Promising Practice uses coordination, telehealth and creation of a patient registry to address (1) the barriers to accessing care for rural Veterans infected with HIV and (2) allocation of specialists' time to HIV-specific care, while integrating primary care physicians more cohesively into a Veteran's life for non-HIV medical needs.

"Telehealth collaborations between specialists and primary care doctors mean more comprehensive care and less travel time for rural patients."

-Dr. Michael Ohl, Rural Promising Practice lead



Implementation

The telehealth collaborative care model was developed to deliver state-of-the-art HIV specialty care and comprehensive primary care to rural Veterans with HIV, without requiring Veterans to travel to distant specialty clinics. The following model is a guide based on knowledge gained from the pilot sites. It provides an overview of implementation, while allowing for personalization based on local needs and expertise.

Telehealth collaborative care includes the creation of shared-care relationships between the distant HIV specialty clinic team and local patient-aligned care teams. In the telehealth collaborative care model, the HIV specialty team continues to manage ART and related aspects of HIV care, while primary care teams focus on common comorbidities that increasingly determine care outcomes—with a focus on cardiovascular risk factors. Needs that don't fall clearly into the assigned purviews of either team are triaged by a central nurse care manager in the HIV clinic, who assists Veterans in navigating shared-care. A personalized handout helps the patient navigate shared-care. Telehealth collaborative care also uses a disease registry for comprehensive population management across multiple sites. The registry is based on the existing HIV clinical case registry and pulls data directly from VHA's corporate data warehouse to track:

- Retention in care;
- HIV viral load laboratory values; and
- Data relevant to management of cardiovascular risk (e.g., blood pressures, blood glucoses and hemoglobin A1Cs, lipid panels and tobacco use).

Implementation occurs over two years, in three phases:

Pre-implementation (6 months)

Prior to implementation, coordinators conduct outreach to CBOCs or local clinics to develop goals, share knowledge and build mutual respect. HIV and local primary care teams meet at least twice: once in-person in the CBOC and again virtually to activate shared-care relationships, negotiate roles, and review mechanisms for care coordination. In-person visits are followed with one to two local videoconferences involving the HIV specialty team, primary care leadership, and PACT members across CBOCs.

Outreach to eligible patients with HIV also occurs during implementation. Veterans were eligible for telehealth collaborative care if they live closer to a CBOC than the HIV specialty clinic and are deemed clinically stable. During pre-implementation, members of the HIV specialty team spoke with each eligible veteran, described telehealth collaborative care and provided a brochure describing telehealth collaborative care. However, Veterans may elect to continue to travel to the VA HIV specialty clinic for all their care if they preferred. To address concerns regarding privacy and stigma surrounding HIV, physicians briefed Veterans about processes and personnel involved with the telehealth collaborative model. Finally, coordinators conducted a program readiness assessment to ensure that systems groundwork was in place, including telehealth equipment and health registry capabilities.

When the pilot program was implemented, two of 45 candidates were deemed ineligible due to the severity of their symptoms. Of the 43 remaining, 41 opted for telehealth.

Implementation (6 months)

Implementation occurs in stages, with groups of CBOCs implementing every few months, to allow for learning and course correction. Using telehealth and the patient registry to facilitate contact and access to care, HIV clinicians manage retention in care, viral loads, and screening and/or vaccinations for comorbid conditions like Hepatitis and influenza. Primary care teams manage cardiovascular risk factors – blood pressure, lipids, sugar levels and tobacco cessation – that increasingly claim more lives than HIV-related factors.

During implementation, telehealth collaborative care visits begin. These include:

- 1) In-person visits between the Veteran and the local CBOC primary care provider, if needed;
- 2) Clinical video telehealth visits with the HIV specialty team (provider, nurse, pharmacist); and
- 3) A “virtual huddle” at the end of the telehealth visit, including the Veteran, the local nurse care manager or telehealth nurse, and the HIV specialty team to discuss goals in care and responsibilities for follow-up in shared care.

Population management relies on a registry that tracks all Veterans in care for HIV across care sites, and automatically pulls data from the VA corporate data warehouse on retention in care, HIV viral loads, blood pressures, blood glucose and hemoglobin A1C, smoking status, and calculated one-year cardiovascular risk. On a quarterly basis, the nurse care manager or pharmacist in the HIV specialty clinic will query the registry to identify Veterans at risk for poor outcomes. The nurse care manager conducts outreach accordingly to keep patients engaged through either HIV telehealth visits or in-person visits with local care teams. Follow-up plans are documented and coordinated using structured shared-care notes in the Computerized Patient Record System, which is the electronic health record system utilized by VA.

When Veterans have concerns, questions, or care needs, they contact the central nurse care manager, who then creates a detailed follow-up plan and documents this in the shared record.

Sustainment (12 months)

Assessments of the first year of program implementation are essential to build trust in the telehealth collaborative model. The evaluation may include semi-structured interviews with all stakeholders in telehealth collaborative care: Veterans, HIV specialty team members, CBOC care team members, telehealth coordinators and primary care leadership. Another component of the assessment may include quality measures regarding HIV-care and cardiovascular risk factor management.

Promising Results

The pilot program began at the Iowa City VA Medical Center. As of October 2015, it was implemented by three specialty HIV care centers in Texas to their network of 26 primary care CBOCs. Although this pilot in telehealth collaborative care has not been subjected to large randomized trials, several features make it a Rural Promising Practice.

Increased Access: Data from the pilot and elsewhere indicate objective improvements in Veteran travel time and visit completion rates, as well as improved care coordination between primary and specialty care team.^{3,12}

Evidence of Clinical Impact: The pilot data show positive clinical impacts on processes of care for comorbidities, without compromising quality measures for HIV care.³ Nearly all participating Veterans (96 percent) maintained an undetectable viral load after the transition to telehealth HIV specialty care visits. The pilot also suggested improvement in comorbid conditions: tobacco cessation improved from 29 percent prior to telehealth collaborative care, to 100 percent during the pilot. This indicates the model's potential for improving cardiovascular risk factor management. In conjunction with the expansion of telehealth collaborative care to new sites, the Office of Rural Health is gathering more comprehensive data on how telehealth collaborative care affects access and outcomes for Veterans with HIV.

Customer Satisfaction: Veteran satisfaction with telehealth collaborative care is high, evidenced by care satisfaction surveys as well as high and sustained participation rates.³ In the pilot study, 41 of 43 eligible Veterans (95 percent) chose telehealth collaborative care over traveling to the HIV clinic for care. Results suggest that the telehealth pilot was associated with reduced travel time for Veterans, without compromising the existing high quality of HIV care (Table 1). Time saved measured more than two hours for median pilot participants. All Veterans in the pilot were retained in care and remained on ART.

Return on Investment: Implementation of the pilot program relies on existing personnel and infrastructure, rather than new investments, making it inherently cost effective. Additional assessment of return on investment, including a budget impact analysis at all implementation sites, is ongoing.

"If diagnosed and reliably treated, persons with HIV can now live an essentially normal lifespan. This Rural Promising Practice helps primary care physicians play a greater role in supporting the other health conditions that come up as Veterans with HIV age."

-Dr. Michael Ohl, Rural Promising Practice lead

Office of Rural Health

Rural Promising Practice Criteria

Increased Access: Measurable improvements in access to care and/or services. Examples include reduction in distance traveled to care, reduction in wait times, improved care coordination, and reduction in missed appointments.

Evidence of Clinical Impact: Positive results on outcomes of importance to rural Veterans based on evaluations conducted during the implementation of the program and at the end of the pilot period.

Customer Satisfaction: Increased patient, provider, partner, and/or caregiver satisfaction.

Return on Investment: Improvement in health system performance by 1) reducing the per capita costs of health care, and 2) improving or at least maintaining health outcomes, and/ or 3) positively impact the health care delivery system.

Operational Feasibility: Implementation is feasible and known barriers and facilitators of success could easily be shared across implementation sites.

Strong Partnerships and/or Working Relationships: Inclusion of VA and/or non-VA partners to maximize the efficacy of the intervention.

Operational Feasibility: Prior studies suggest that long-term operational feasibility is supportable.¹¹⁻¹³ With its well-developed telehealth infrastructure, integrated electronic health records and data warehouses, VA is an ideal setting for the development and refinement of this pilot. In addition, the pilot also shows promise for future application outside VA. As health care reform advances in the United States, health care systems and Accountable Care Organizations will increasingly develop

telehealth programs, inter-operable electronic health records and regional data warehouses. This will set the stage for dissemination of this Rural Promising Practice outside VA, allowing for community health systems to contribute to lessons learned in VA's integrated system. This aligns with substantial external evidence that supports the use of clinical video telehealth to care for chronic illnesses, including HIV.

Strong Partnerships and/or Working Relationships: This model encourages and formalizes relationships between HIV specialists, often at urban hubs, and general practitioners at local sites of care.

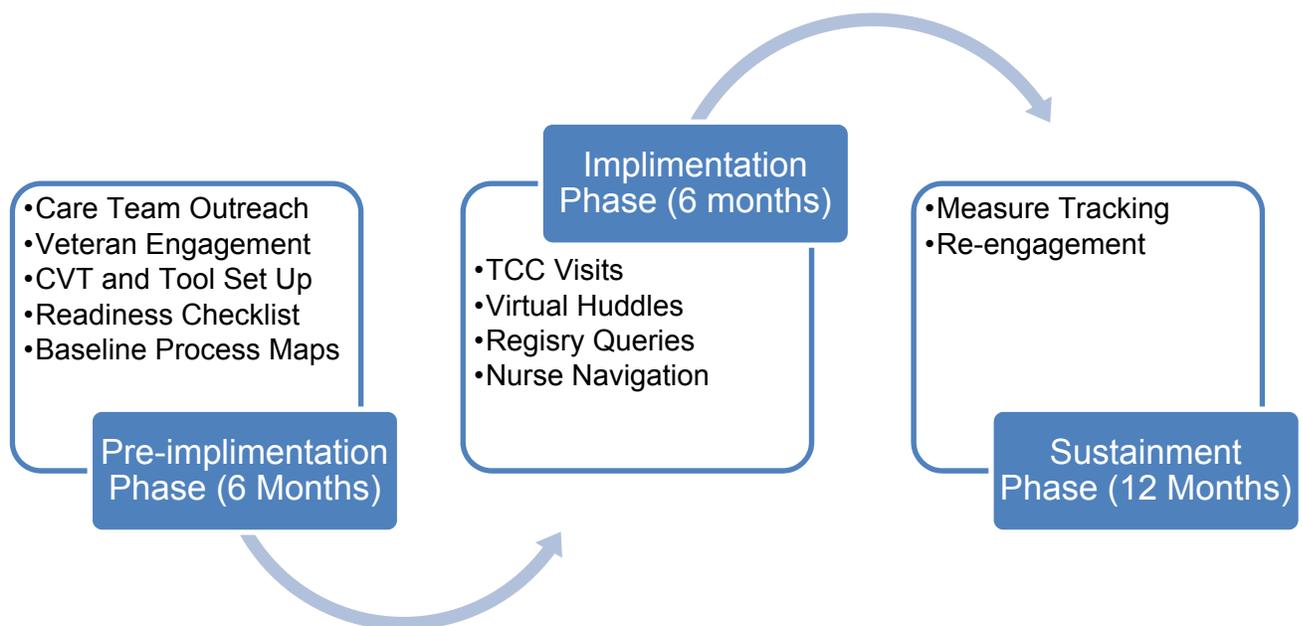
Adoption Considerations

Factors influencing the success of telehealth collaborative care were explored during semi-structured interviews with Veterans and focus groups with primary care teams in CBOCs. Veterans initially had concerns regarding privacy and HIV stigma when relocating care to nearby CBOCs, but these concerns were alleviated after Veterans observed the efforts made to protect their privacy during CBOC visits.

Primary care providers had concerns about the complexity of HIV care at first, but expressed enthusiasm for participating in a shared-care structure with clearly defined roles and precise mechanisms for communicating with the HIV specialty team. Primary care providers also stressed the importance of relationships and coordination with the HIV specialty teams and their CBOC care teams, which led to agreed-upon forms of care coordination and engendered an atmosphere of mutual respect and trust in the shared mission of HIV care. The pre-implementation processes of disseminating telehealth collaborative care should address Veterans' and providers' concerns regarding privacy, stigma and coordination.

Conclusion and Next Steps

Telehealth collaborative care is feasible and can help safely meet the care needs of the aging population of rural Veterans with HIV infection. Future work should focus on disseminating this model of care in rural and remote areas inside and beyond the VA network. Additional attention may be paid to developing strategies to promote telehealth collaborative care dissemination and on identifying the budget impact and business case for telehealth collaborative care. This can be accomplished through hybrid implementation effectiveness studies that test expansion of telehealth collaborative care in facilities caring for geographically dispersed populations of Veterans with HIV infection.



Available Resources

The creators of this Rural Promising Practice created additional resources to aid in implementing this model of care at other facilities. Telehealth Collaborative Care for Veterans with HIV in Rural and Outlying Urban Settings, Implementation and Overview Toolkit, which includes:

- Before, during and after checklists for HIV specialty and primary care teams
- Informational brochure for Veterans
- Readiness checklist
- Return To Clinic orders
- Sample clinical video telehealth visit flow map
- Sample case manager triage algorithm
- Sample evaluation measures for sustainment phase
- Sample scheduling algorithm
- Sample team member responsibility chart
- Telehealth service agreement

Access these resources from <http://www.ruralhealth.va.gov/providers/promisingpractices>.

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To Learn More

The Rural Promising Practices initiative is overseen by the U.S. Department of Veterans Affairs (VA) Office of Rural Health (ORH) as part of its targeted, solution-driven approach to increase access to care for 3 million Veterans living in rural communities who rely on VA for health care. As VA's lead advocate for rural Veterans, ORH works to see that America's Veterans thrive in rural communities. To accomplish this, ORH leverages its resources to study, innovate and spread enterprise-wide solutions through local and national partnerships. To discuss implementing a Rural Promising Practice at your facility or to learn more, visit www.ruralhealth.va.gov or email rural.health.inquiry@va.gov.



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References

1. Schur CL, Berk ML, Dunbar JR, Shapiro MF, Cohn SE, Bozzette SA. Where to seek care: an examination of people in rural areas with HIV/AIDS. *J RuralHealth* 2002; 18(2): 337-47.
2. Yano EM, Asch SM, Phillips B, et al. Organization and management of care for military veterans with human immunodeficiency virus/acquired immunodeficiency syndrome in Department of Veterans Affairs Medical Centers. *Military medicine* 2005; 170(11): 952-9.
3. Ohl M, Dillon D, Moeckli J, et al. Mixed-Methods Evaluation of a Telehealth Collaborative Care Program for Persons with HIV Infection in a Rural Setting. *J Gen Intern Med* 2013; 28(9): 1165-73.
4. World Health Organization; WHO.int.
5. Samji H, Cescon A, Hogg RS, et al. Closing the gap: increases in life expectancy among treated HIV-positive individuals in the United States and Canada. *PloS one* 2013; 8(12): e81355.
6. Handford CD, Tynan AM, Rackal JM, Glazier RH. Setting and organization of care for persons living with HIV/AIDS. *CochraneDatabaseSystRev* 2006; 3: CD004348.
7. Freiberg MS, Chang CC, Kuller LH, et al. HIV infection and the risk of acute myocardial infarction. *JAMA internal medicine* 2013; 173(8): 614-22.
8. Chu C, Selwyn PA. An epidemic in evolution: the need for new models of HIV care in the chronic disease era. *Journal of urban health : bulletin of the New York Academy of Medicine* 2011; 88(3): 556-66.
9. Ohl ME, Richardson K, Kaboli PJ, Perencevich EN, Vaughan-Sarrazin M. Geographic Access and Use of Infectious Diseases Specialty and General Primary Care Services by Veterans With HIV Infection: Implications for Telehealth and Shared Care Programs. *The Journal of rural health : official journal of the American Rural Health Association and the National Rural Health Care Association* 2014.
10. Hersh; WR, Hickam; DH, Severance; SM, Dana; TL, Krages; KP, Helfand; M. *Telemedicine for the Medicare Population: Update*. Rockville, MD: Oregon Evidence-based PracticeCenter (EPC), 2006.
11. Saifu HN, Asch SM, Goetz MB, et al. Evaluation of human immunodeficiency virus and hepatitis C telemedicine clinics. *The American journal of managed care* 2012; 18(4): 207-12.
12. Young JD, Patel M, Badowski M, et al. Improved Virologic Suppression with HIV Subspecialty Care in a Large Prison System Using Telemedicine: An Observational Study with Historical Controls. *Clinical infectious diseases : an official publication of the Infectious Diseases Society of America* 2014.
13. Backus LI, Boothroyd DB, Phillips BR, et al. National quality forum performance measures for HIV/AIDS care: the Department of Veterans Affairs' experience. *Arch InternMed* 2010; 170(14): 1239-46.