

Rural access to clinical pharmacy services

Brandon J. Patterson, Peter J. Kaboli, Traviss Tubbs, Bruce Alexander, and Brian C. Lund

Abstract

Objectives: To examine the impact of rural residence and primary care site on use of clinical pharmacy services (CPS) and to describe the use of clinical telepharmacy within the Veterans Health Administration (VHA) health care system.

Methods: Using 2011 national VHA data, the frequency of patients with CPS encounters was compared across patient residence (urban or rural) and principal site of primary care (medical center, urban clinic, or rural clinic). The likelihood of CPS utilization was estimated with random effects logistic regression. Individual service types (e.g., anticoagulation clinics) and delivery modes (e.g., telehealth) were also examined.

Results: Of 3,040,635 patients, 711,348 (23.4%) received CPS. Service use varied by patient residence (urban: 24.9%; rural: 19.7%) and principal site of primary care (medical center: 25.9%; urban clinic: 22.5%; rural clinic: 17.6%). However, in adjusted analyses, urban–rural differences were explained primarily by primary care site and less so by patient residence. Similar findings were observed for individual CPS types. Telehealth encounters were common, accounting for nearly one-half of patients receiving CPS. Video telehealth was infrequent (<0.2%), but more common among patients of rural clinics than those receiving CPS at medical centers (odds ratio [OR] = 9.7; 95% CI 9.0–10.5).

Conclusion: We identified a potential disparity between rural and urban patients' access to CPS, which was largely explained by greater reliance on community clinics for primary care than on medical centers. Future research is needed to determine if this disparity will be alleviated by emerging organizational changes, including expanding telehealth capacity and integrating pharmacists into primary care teams, and whether lessons learned at VHA translate to other settings.

Keywords: Rural access, clinical pharmacy services, veterans.

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Rural Americans simultaneously experience a higher chronic disease burden and more limited access to health care services.¹⁻⁶ This discrepancy may be alleviated by changes in the health care system to enhance rural access, such as increasing use of home monitoring technologies and other telehealth modalities, as well as expanding roles for nonphysician providers.⁷⁻¹¹

Pharmacists have recently taken on greater roles in managing medication therapies, especially for patients with chronic medical conditions.¹²⁻¹⁴ Pharmacists providing clinical services positively influence health outcomes for patients suffering from a variety of chronic conditions.¹⁵⁻¹⁸ With health care payers encouraging interprofessional care through accountable care organizations and the patient-centered medical home (PCMH) model of primary care, an expanded clinical role for pharmacists may improve prescribing quality for rural Americans.¹⁹⁻²⁴

In addition to time and distance barriers, the uneven distribution of health care providers can create access issues for rural patients.⁶ Between 70% and 80% of rural patients seek care in the rural areas in which they live.³ While it is not impossible for rural patients to access geographically convenient community pharmacy services, rural pharmacies are particularly vulnerable to closures

and pharmacist vacancies.²⁵⁻²⁸ Pharmacists have expanded their presence into rural areas through the use of telepharmacy to provide medication counseling and dispensing functions in areas not previously served by pharmacists.^{7,11,29,30} However, more research is needed to assess how patients' ability to access clinical pharmacy services (CPS) has changed as a result of recent advances in pharmacy practice, especially in integrated health systems.

Every year, Veterans Health Administration (VHA) serves more than 8.3 million patients at more than 1,700 medical centers and clinics across the United States, and over one-third of these patients live in rural areas.^{4,10,31} Pharmacists within the VHA system provide a number of CPS, patient education, collaboration with other prescribers, and direct medication management of various disease states (e.g., anticoagulation).⁸ This integrated health system provides a unique opportunity to study geographic variation in health care access and utilization.³²

To date, only one study has examined urban-rural differences in prescribing quality in VHA. The study found evidence for a modest disadvantage among rural veterans, particularly those in the south and northeast regions of the country.⁴ One potential driver of this difference may be access to clinical pharmacists. As a result of electronic consult requests, telepharmacy, and other services, all VHA patients have potential access to CPS regardless of geographic location. However, actual use of these services by rural veterans may be diminished because VHA clinical pharmacy specialists are clustered in medical centers, and primary care providers in VHA community-based outpatient clinics (CBOCs) are less likely to have established collaborative relationships with these pharmacists and, thus, less likely to request services.¹⁰

At a Glance

Synopsis: This study used national Veterans Health Administration (VHA) data to examine the impact of patient residence and treatment facility location on the use of clinical pharmacy services (CPS), as well as to examine the mode of service delivery. The study found that patients residing in urban areas were more likely to have a CPS encounter than patients in rural areas (24.9% vs. 19.7%). Additionally, CPS use was more common for patients receiving primary care in medical centers (25.9%) compared with those being treated at urban clinics (22.5%) or rural clinics (17.6). The research findings also showed that nearly one-half (49%) of the study population had at least one telehealth pharmacy encounter.

Analysis: *Access to health care for rural patients remains a serious problem in the United States. While pharmacists and other health care providers have made strides in increasing the provision of care through interprofessional and technologically enhanced processes, little is known about how effective these measures are in reducing access issues. This study suggests that organizational changes that increase the presence of clinical pharmacists in community clinics could help alleviate disparities in access to CPS delivery. The study authors note that the findings presented here have significant implications, especially in light of ongoing health system reformation and efforts to obtain provider status for pharmacists.*

Objectives

The primary objective of this study was to examine the impact of rural residence and primary care site on CPS utilization. We hypothesized that rural patients would be less likely than urban patients to have a CPS encounter but that this effect would be largely attributable to their principal site of primary care within the VHA health care system (i.e., medical center, urban CBOC, or rural CBOC). The secondary objectives were to examine geographic variation in specific CPS types (e.g., anticoagulation) and to characterize the mode of CPS delivery (e.g., telehealth).

Methods

Data sources

National administrative VHA data were obtained for fiscal year (FY) 2011 from the Austin Information Technology Center (Austin, TX). Information regarding outpatient care encounters was obtained from the VHA

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