DEPARTMENT OF VETERANS AFFAIRS

VAMC Facility Rurality: Comparison of Three Classification Approaches

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Introduction

Of the 7.8 million enrolled veterans, approximately 3 million (38%) live in rural areas. As the challenges of providing care to these veterans are better understood it becomes increasingly important to identify those facilities that require the most resources to meet the needs of veterans they serve. Currently facilities classified as Rural (R) or Highly Rural (H) have been eligible for relocation and retention incentives to ensure they have proper clinical and managerial expertise. Thus, classifying a facility as "rural" has a very real impact on the resources available at that location.

To that end, this study compared the current VA Medical Center (VAMC) classification system to two alternative classification systems.

Classification Approaches

Facility URH Classification: The current VAMC classification system is a 3-category scheme that designates each facility as Urban (U), Rural (R), or Highly Rural (H) based on census block population density.

Urban: Any facility located in a US Census defined urbanized area

Rural: Any facility not defined as Urban

Highly Rural: Any facility defined as Rural and located in counties with average population density of less than 7 civilians per square mile

Key Findings

- There is a considerable degree of variability between each of the three classification approaches used in this study, highlighting the importance of carefully considering how rurality is defined.

- Of the 122 facilities examined in this study, there were a total of 35 facilities classified as either Rural or Highly Rural by at least one approach and for 25 of these, there is at least one classification approach that classifies the facility as Urban.

Patient URH Classification: The second classification system examined in this analysis, Patient URH classification, examines the geocoded location of the home of each patient discharged from a given facility. Patients were classified as Urban, Rural, or Highly Rural using the same criteria as the Facility URH classification system.

This approach indicated that facilities with more than 10% of discharged patients classified as Highly Rural were classified as Highly Rural, while facilities with more than 70% of discharged patients classified as Rural or Highly Rural were classified as Rural.

Patient RUCA Classification: The third classification system examined the Rural-Urban Commuting Area (RUCA) classification, which is also based partially on census tracts, but takes into consideration patient location in relationship to larger urban areas.

This system classifies locations into ten categories that can be further combined into four (1 = Urban, 2 = Large Rural, 3 = Small Rural, 4 = Isolated).

Based on this classification system, facilities with more than 20% of discharged patients classified as Isolated were classified as Highly Rural while facilities with more than 35% of discharged patients classified as Small Rural or Isolated were classified as Rural.

Methods

These comparisons are drawn based on a systematic examination of discharge records from those VAMC facilities (N=122) identified as having discharged medical patients in FY 06-7. VA facilities that only provided outpatient, rehabilitation, or psychiatric care were excluded.

Considering all 3 classification approaches there are a total of 35 facilities **(See Table 1)** that are classified as R or H by at least one approach. For 25 of these facilities there is at least one classification approach

that classifies the facility as Urban. There are 10 facilities currently classified as Urban by VA (See last 10 rows of the Table) that may need consideration as rural facilities.

Conclusions

This analysis suggests that patient population composition may be an important consideration when determining facility rurality. Reviewing the table provides two examples showing the important distinction between facility physical location and where its patients reside.

Consider, for example, the case of the Fargo VAMC (437). VA currently classifies this facility as Urban, but based on its patient mix, the Patient URH (13% Highly Rural) and Patient RUCA (38% Isolated) suggest that this facility is Highly Rural. On the opposite end of the spectrum is a facility like the Leavenworth KS VAMC (589A6). Based on the facility's location in a less densely populated census block, the facility is classified as Rural. However, since the facility is approximately 40 miles from both Lawrence, KS and Kansas City and its suburbs, it treats a predominately urban population. Thus an "urban" veteran living in Kansas City, for example, still may drive a considerable distance to reach the nearest acute care VAMC.

Overall, this analysis highlights the difficulty in classifying patients and facilities based on the rurality of their location. There is a considerable degree of variability between each of the three classification approaches used in this analysis. The choice of classification can also be highly dependent upon the context of the question being considered.

Future analyses might want to consider driving time to the hospital as a classification approach and perhaps, more importantly, identify whether the facility classification is a marker for performance on key health outcomes measures.

Table 1. Comparison of Classification Approaches (includes all VAMCs that are considered Rural or Highly Rural by at least one approach)

Facility Number	Facility Name	Facility URH Classification	Patient URH Classification	Patient RUCA Classification
568A4	VA Black Hills Health Care System Hot Springs, South Dakota	H	H	H
436	VA Montana Health Care System Fort Harrison, MT	R	H	U
660	VA Salt Lake City Health Care System Salt Lake City, UT	R	H	U
666	Sheridan VAMC Sheridan, WY	R	H	U
687	Jonathan M. Wainwright Memorial VAMC Walla Walla, WA	R	H	U
402	Togus VAMROC Augusta, ME	R	R	H
405	White River Junction VAMROC White River Junction, VT	R	R	H
540	Clarksburg - Louis A. Johnson VAMC Clarksburg, WV	R	R	H
585	Oscar G. Johnson VAMC Iron Mountain, MI	R	R	H
657A4	John J. Pershing VAMC Poplar Bluff, MO	R	R	H
676	Tomah VAMC Tomah, WI	R	R	H
557	Carl Vinson VAMC Dublin, GA	R	R	R
623	Jack C. Montgomery VAMC Muskogee, OK	R	R	R
657A5	Marion VAMC Marion, IL	R	R	R
573A4	North Florida/South Georgia Veterans Lake City, FL	R	R	U
653	VA Roseburg Health Care System Roseburg, OR	R	R	U
528A6	Bath VAMC Bath, NY	R	U	R
515	Battle Creek VAMC Battle Creek, MI	R	U	U
519	West Texas VA Health Care System Big Spring, TX	R	U	U

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Facility Number	Facility Name	Facility URH Classification	Patient URH Classifica-tion	Patient RUCA Clas-sification
589A6	VA Eastern Kansas Health Care System Leavenworth, KS	R	U	U
612A4	N. California HCS-Sacramento Mather,CA	R	U	U
613	Martinsburg VAMC Martinsburg, WV	R	U	U
619A4	Central Alabama Veterans Health Care Tuskegee, AL	R	U	U
626A4	Tennessee Valley Healthcare System Murfreesboro, TN	R	U	U
659	Salisbury – W.G. (Bill) Hefner VAMC Salisbury, NC	R	U	U
437	Fargo VAMROC Fargo, ND	U	H	H
442	Cheyenne VAMC Cheyenne, WY	U	H	U
501	New Mexico VA Health Care System Albuquerque, NM	U	H	U
589A4	Harry S. Truman Memorial Veterans Columbia, MO	U	R	H
596	Lexington VAMC Lexington, KY	U	R	H
438	Sioux Falls VAMC Sioux Falls, SD	U	U	H
503	Altoona - James E. Van Zandt VAMC Altoona, PA	U	U	R
564	Veterans Health Care System of the Ozarks Fayetteville, AR	U	U	R
607	William S. Middleton Memorial Veterans Hospital Madison, WI	U	U	R
637	Asheville VAMC Asheville, NC	U	U	R

Impact

- Current methods for identifying rural facilities do not adequately consider the many complex variables impacting the quality of patient care at facilities

- Future studies should consider both the proportion of rural veterans served by a facility and drive times.

- The impact of recruitment and retention bonuses based upon facility's location should be evaluated.

Approved by ORH *INSERT DATE* and available on-line at *http://www.ruralhealth.va.gov/*