MAHSO

MARKET AREA HEALTH SYSTEMS OPTIMIZATION

National Planning Strategy

Rural Health

March 2021

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Executive Summary

The Department of Veterans Affairs (VA) Market Area Health Systems Optimization (MAHSO) effort developed 96 draft market assessments in the 18 VA Veteran Integrated Service Networks (VISNs) to produce opportunities for the design of high-performing integrated delivery networks. These market assessments were required by the VA Maintaining Systems and Strengthening Integrated Outside Networks (MISSION) Act of 2018.

These market assessments will culminate with a National Realignment Strategy that will present Veterans Health Administration's (VHA's) plan for the future of VA health care, enabling Veterans to access the right high-quality care in the right location. Recommendations from the market assessments will be finalized and submitted by the Secretary of VA to the presidentially appointed Asset and Infrastructure Review (AIR) Commission for consideration. The AIR Commission will submit its recommendations to the President for review and approval, prior to them sending to Congress for review and approval.

The Rural Health National Planning Strategy establishes an approach for considering rurality in health care planning and provides rural planning guidelines for essential community services – primary care (including outpatient mental health) and basic short-stay emergency care services in rural areas (rural micro hospitals). This strategy provides a more equitable approach to service planning for rural Veterans and will support the development of the VA National Realignment Strategy.

The VHA Chief Strategy Office (CSO), committed to working with offices across the organization to create programs and services that best serve Veterans, developed the Rural Health National Planning Strategy in consultation with the Office of Rural Health (ORH), the Office of Connected Care, and the Secretary's Center for Strategic Partnerships (SCSP).

Rural Health Overview

Compared to urban and suburban communities, rural communities experience more health care access challenges and higher incidences of chronic conditions. Yet in rural areas across the country, points of care are closing, and health care costs are increasing. The fragility of rural health care markets requires efficient use of available resources in order to remain stable. Hospital closures and provider shortages persist, which places existing talent pools at risk and creates greater market volatility.

Across the U.S., Veterans are more likely than other Americans to live in rural areas. Approximately one in three enrolled Veterans live in a rural area (2.8 million Veterans in fiscal year (FY) 2018) compared to one in five Americans overall. While Veterans are more likely to live in rural areas, VHA-enrolled Veterans represent just 4.5% of total

rural Americans, emphasizing the need for innovative, sustainable rural health solutions nationwide.

The ORH, the Office of Connected Care, and the SCSP have implemented progressive programmatic solutions to rural health care delivery that could be further expanded. These include, but are not limited to:

- Telehealth Clinical Resource Hubs and Tele-Intensive Care Units
- Advance Telehealth Through Local Area Stations (ATLAS) partnerships
- VA, Indian Health Services (IHS), and other Federal health care provider partnerships

Care delivery challenges in rural areas continue to increase, yet distribution of the above innovative services remains uneven across the country. This strategy provides a way to consistently assess innovative solutions as a part of market planning and outlines the intersection of multiple VA offices' work with market assessments, highlighting future collaboration opportunities.

Resulting Planning Guidelines

Planning guidelines and thresholds inform products of the market assessment process. The rationale for establishing VA planning guidelines and thresholds are rooted in the belief that quality of care or patient safety may be compromised when a service falls below identified measures.

The Rural Health National Planning Strategy was developed following two key assumptions:

1. VA primary care is an enrollee's front door to the VA integrated network; therefore, ensuring enrollees have access to primary care services is a priority, and
2. Rural health care planning requires designing care delivery solutions that enhance the sustainability of the community's health care market. Supporting sustainable rural health care markets is a priority.

For planning purposes, geographic designations such as counties, submarkets, and markets are classified as either rural or urban based on where most enrollees live. For example, if greater than 50% of enrollees within a county live in a rural area, the county is considered a rural county. If 50% or fewer enrollees live in rural areas, the county is considered an urban county. Local-level services with a 30-minute drive time expectation are to use rural planning guidelines, as illustrated below, for sites in rural counties. Rural short-stay micro hospitals serve a larger geography and also should use rural planning guidelines in rural markets or rural submarkets.

The Rural Health National Planning Strategy developed quantitative and qualitative planning guidelines across demand, supply, access, quality, and other applicable domains for each service type. A summary of the primary demand planning guidelines is as follows:

Rural Health Planning Guidelines

Service	Primary Planning Guideline
Primary Care and Mental Health	• **Open or Maintain**: 2,500 Projected FY 2027 Enrollees within a 30-minute drive time of existing or proposed location, or 1,800 FY 2018 Uniques • Guideline is applicable for locations in rural counties
Rural Micro Hospital	• **Relocate or Partner-VA:** Between 6 and 19 Projected FY 2027 Inpatient Medicine Average Daily Census (ADC) • Guideline is applicable for rural markets or rural submarkets

Future Program Planning

The four-step process for revisiting MAHSO draft opportunities, describes how rural primary care and inpatient medicine-specific market assessment opportunities will be reviewed and updated, if necessary.

1. Review Phase 1-3 market assessment data and rural primary care and inpatient medicine opportunities
2. Apply Rural Health National Planning Strategy planning guidelines
3. Update/Create new opportunities when appropriate
4. Review and finalize opportunities with VA Leadership

In conclusion, the Rural Health National Planning Strategy provides a more equitable approach to service planning for rural Veterans for essential community care services, will aid in the development of a consistent set of recommendations to inform and support the National Realignment Strategy, and will support VA in future long-range care delivery planning efforts.

1. Overview

The Veterans Health Administration (VHA) Chief Strategy Office (CSO) mission is to provide enterprise-wide strategic direction to facilitate decision-making and guide transformative health care for Veterans. CSO is committed to working with offices across the organization to create national planning strategies that best serve Veterans.

To develop the Rural Health National Planning Strategy, internal VA subject matter experts as well as external commercial and other Federal rural health resources were consulted.

1.1 Rural Health, VA, and Innovation

Research, resources, and partnerships to aid a declining, vulnerable population

Rural communities experience health care access challenges and have higher incidences of chronic conditions than suburban and urban communities, yet across the country, points of care in rural areas are closing and health care costs are increasing. Veterans are more likely than other Americans to live in rural areas, with approximately one in three enrolled Veterans living in rural areas (2.8 million Veterans in fiscal year (FY) 2018) compared to one in five Americans overall. While Veterans are more likely to live in rural areas, VHA-enrolled Veterans represent just 4.5% of total rural Americans, emphasizing the need for innovative, sustainable rural health solutions nationwide. As innovative care delivery solutions emerge across the commercial market and VA, national-level planning guidelines are essential to support consistent, sustainable access to health care services for rural Veterans.

VA's mission is "to care for him who shall have borne the battle, and for his widow, and his orphan," and to do so through actions guided by the values of integrity, commitment, advocacy, respect, and excellence. Because of differences in rural health care markets compared to urban markets, delivering on the VA mission requires tailored initiatives for rural parts of the country. Several VA offices focus on rural health and innovation that aid other parts of the organization in delivering program goals equitably to rural Veterans. Three key offices contributing to rural solutions are the Office of Rural Health (ORH), the Office of Connected Care, and the Secretary's Center for Strategic Partnerships (SCSP).

ORH was established by Congress in 2006 to conduct, coordinate, promote, and disseminate research on issues affecting Veterans residing in rural communities, and to promulgate policies, best practices, lessons learned, and innovative and successful programs to improve care and services for rural Veterans. Since 2006, the ORH has established a portfolio of core solutions, including national rural needs assessments, promotion of public-private partnerships, cross-agency collaborations, VA Enterprise-Wide Initiatives, and VA Rural Promising Practices. ORH spreads these programs by issuing internal start-up funding to VA applicants.

Often in partnership with ORH, the Office of Connected Care also plays a major role in improving rural health care delivery. Leveraging technology, the Office of Connected Care mitigates provider and access disparities between urban and rural areas. The Office's range of responsibilities extend beyond serving rural Veterans, however, because of the nature of its work (technology and telehealth), rural Veterans benefit from its mission.

The third group, the SCSP, also has an enterprise-wide mission – to improve Veterans lives through "big, bold, and impactful collaborations"[1] – and serves as the gateway to innovative solutions through public-private partnerships which is particularly advantageous for rural health care delivery.

Successful programs have been established in parts of VA which are summarized in Section 2.5 of this report, however, complex, and severe challenges in rural America persist. This strategy aims to incorporate and operationalize best practices on an enterprise level through long-range planning guidelines.

2. Current State Overview

Organizations across public and private sectors work towards improving access to high-quality care in rural America, however, challenges persist

This section provides an overview of the current state of rural health care, starting at a macro-level—U.S. geography, demographics, and overall challenges—then moves to VHA-specific rural characteristics, evolutions in care delivery, and trends across commercial and other Federal providers.

2.1 Defining Rurality

Geography and Rurality Classifications

Geography

The United States (U.S.) is the world's third largest country in size and covers a diverse landscape – from the Rocky Mountains, across dense wilderness, the great plains, deserts, Appalachia, and coastal plains – of which 97% is considered rural. During the twentieth century, a substantial portion of the U.S. population migrated from rural areas to urban areas, decreasing the percentage of Americans living in rural areas from 54.4% in 1910 to 19.3% in 2010. [2] This migration is primarily attributed to industrialization and is projected to continue, however, rural America is integral to the nation's identity, economy, and overall well-being. With fewer people comes fewer resources, which introduces challenges in delivering basic needs such as health care.

Image source: VA Office of Rural Health. (2020).

The United States landscape is 97% rural yet only 20% of Americans live in rural areas.

This disproportionate distribution of people makes providing access to health care an extreme challenge.

Among rural areas, a variety of geographic landscapes exist. Two notable categories include frontier Western counties and rural Southern counties. Though definitions vary, frontier areas are highly rural and sparsely populated, and generally are geographically isolated from other population centers. Many frontier counties are in the West, covering mostly undeveloped areas, such as mountain ranges. Conversely, most of the East has

some level of development, even if there are very few residents (if any) per square mile. These areas more often are agricultural development and farming areas. [3]

Figure 1: *2010 RUCA Census Tracts Summarized into Urban, Rural, and Highly Rural Areas*

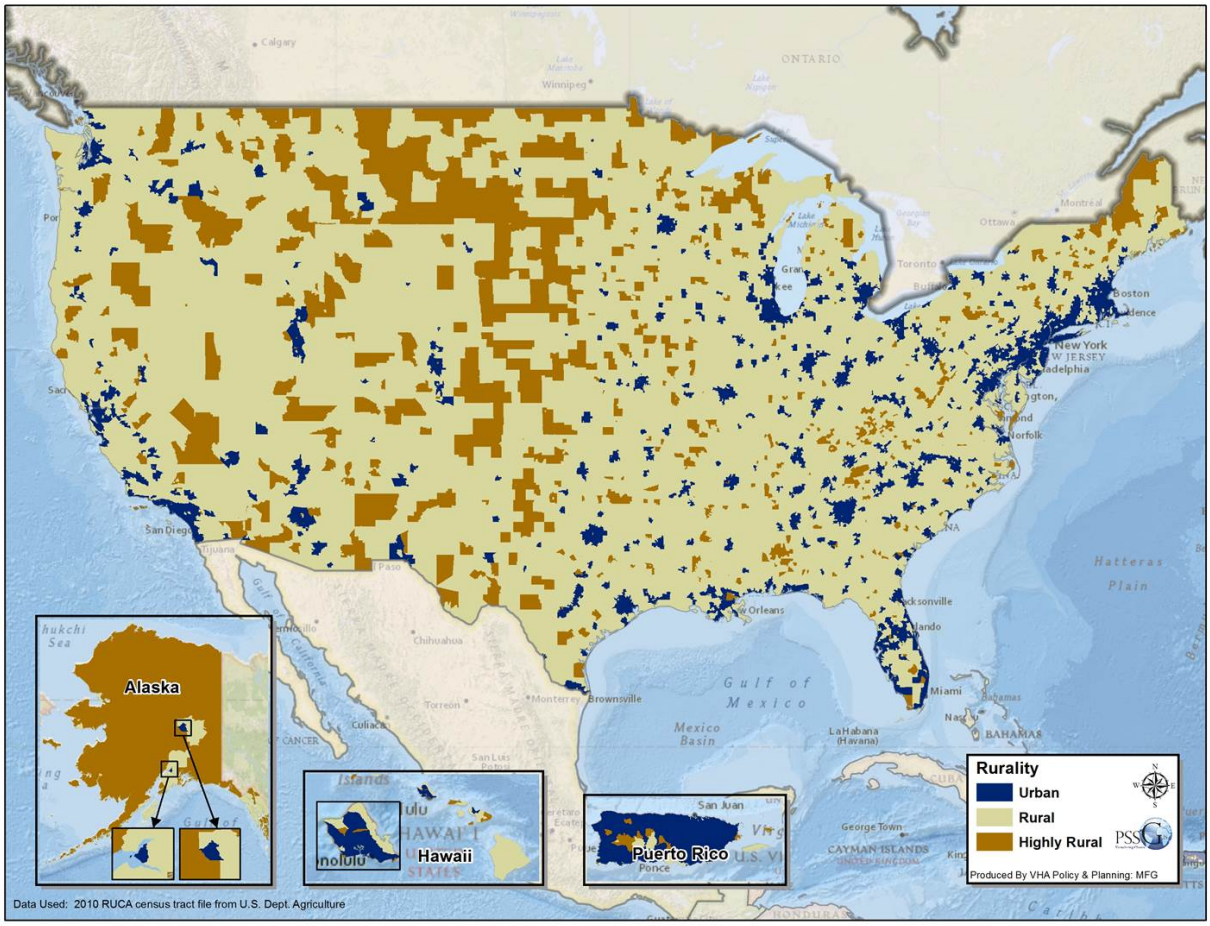


Image Source: VA Office of Rural Health. (2020).

Rurality Classifications

This report uses the Rural-Urban Commuting Areas (RUCA) system used by VA to define rurality. This is the same classification system used in the Market Area Health Systems Optimization (MAHSO) market assessments. Developed by the Department of Agriculture (USDA) and the Department of Health and Human Services (HHS), the RUCA system assigns each U.S. Census tract a RUCA code based on population density, urbanization, and daily commuting patterns. There are 33 codes (from most urban to most rural) that can be combined and simplified into fewer categories.

In MAHSO, enrollees within each county are counted as either urban or rural based on the RUCA code for the tract in which they live. This allows each county to have a "Percent Rural" metric (the sum of total rural enrollees in the county divided by the sum of total county enrollees), which is used throughout MAHSO and this report.

- **Urban Area**: Census tracts with at least 30% of the population residing in an urbanized area as defined by the Census Bureau are defined as urban.
- **Rural Area**: Land areas not defined as urban.
    - **Insular Islands (considered Rural):** the U.S. insular islands, including territories, for example, the U.S. Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands.
    - **Highly Rural Areas (considered Rural)**: Sparsely populated areas in which less than 10% of the working population commutes to any community larger than an urbanized cluster, which is typically a town of no more than 2,500 people.

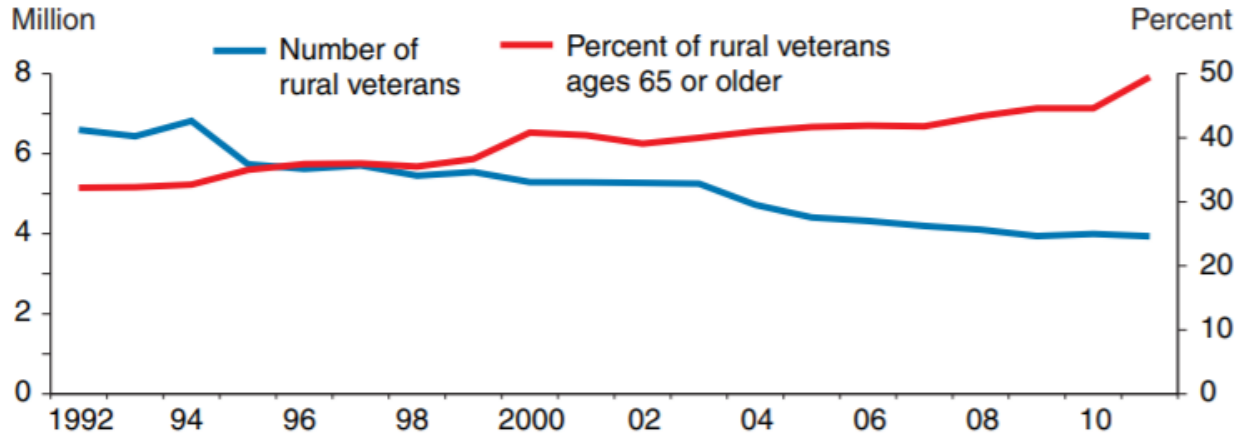
The most recent RUCA codes are based on data from the 2010 decennial census and the 2006-10 American Community Survey and are illustrated in Figure 1. [4]

Rural Demographics

Rural areas across the country are not homogenous and comprise different demographic and economic characteristics. In 2017, Hispanics were the fastest-growing segment of the rural population but accounted for only 9% of the total rural population versus 20% in urban areas. Black Americans made up 8% of the rural population (13% in urban areas) and American Indians were the only minority group with a higher rural (2%) than urban share (0.5%). People identifying as White accounted for nearly 80% of the rural population compared to 58% in urban areas.

Rural areas have a higher share of adults ages 65 and older than urban or suburban counties. This is notable because older patients tend to require more health care services, both in volume and in types of specialty care, than younger patients.

Figure 2: *Number and Age of Rural Veterans*

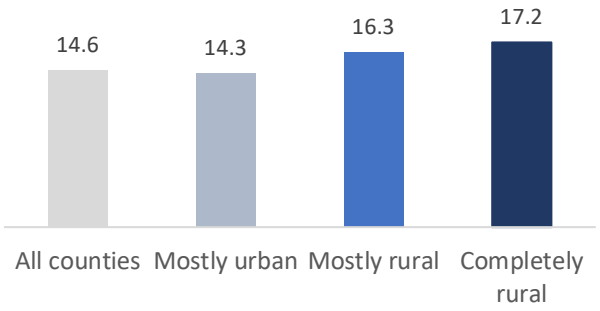


Source: U.S. Department of Agriculture. (2013).

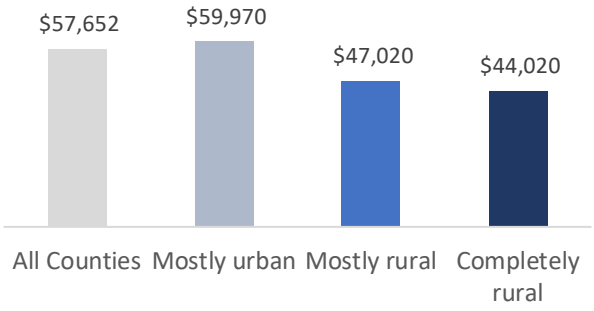
Rural Economy

Rural areas often specialize in different industries than urban areas, particularly those focused on agriculture, manufacturing, and mining, though these industries are not reflective of all rural and frontier economies. In general, median household incomes have been lower and poverty rates higher in rural counties than in urban counties. This is notable because rural counties also rely more heavily on Medicaid, which often does not fully reimburse the cost of health care services. A Medicaid-heavy payer mix can create financial instability for a health care provider or system. Also, in VHA, lower income levels qualify Veterans for higher priority levels with resulting additional health service benefits. [5]

2013-17 US Poverty Rates by County Type



2013-17 US Median Household Income by County Type



Source: U.S. Census Bureau. (2020).

2.2 Rural Veteran Demographics and VHA Service Distribution

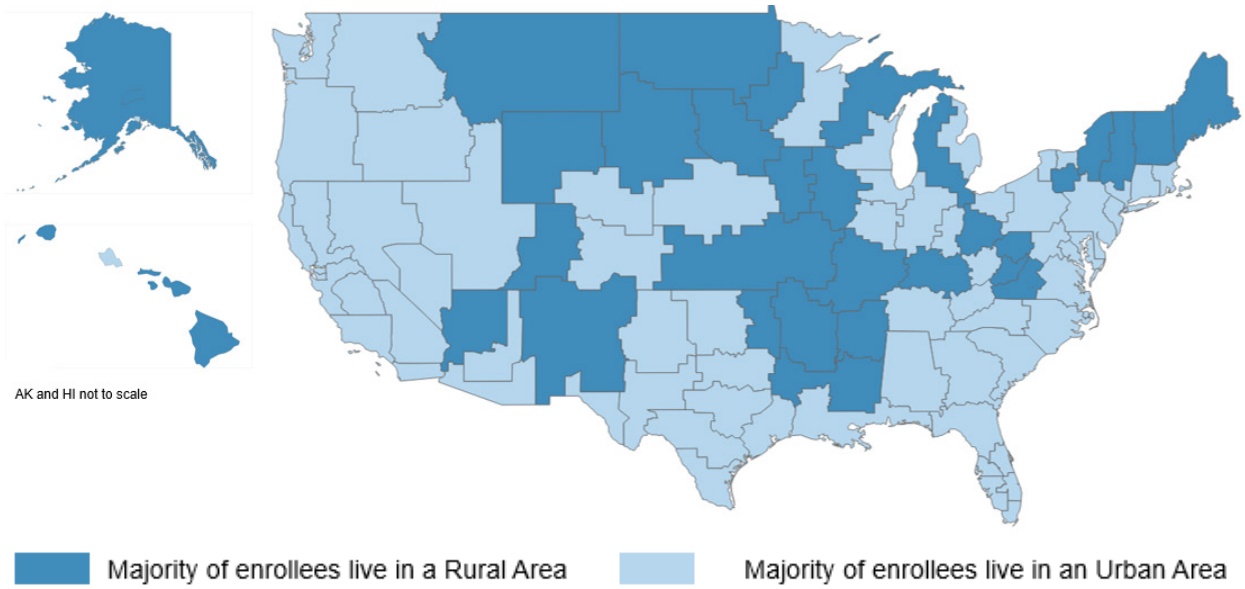
Characteristics of Rural Veterans

Rurality, Enrollment, Age, and VA Reliance

MAHSO involves long-range health care planning for all 96 VA markets. Markets differ in geography and enrollee size. The levels of rurality also differ greatly across and within markets, yet even the least rural (or "most urban") market – VISN 02, VA Long Island Market at 2.8% rural in FY 2018 – had 897 enrollees living in rural areas. This Rural Health National Planning Strategy will account for all rural enrollees regardless of market rurality.

However, for a high-level understanding of rurality across the organization, this section differentiates the markets by where most enrollees live. Of the 96 markets, 30 markets have more than 50% of their enrollees living in a rural area and 66 markets have greater than or equal to 50% of their enrollees in urban areas.

Figure 3: *National-level VHA Market Rurality Map by Majority Rurality*



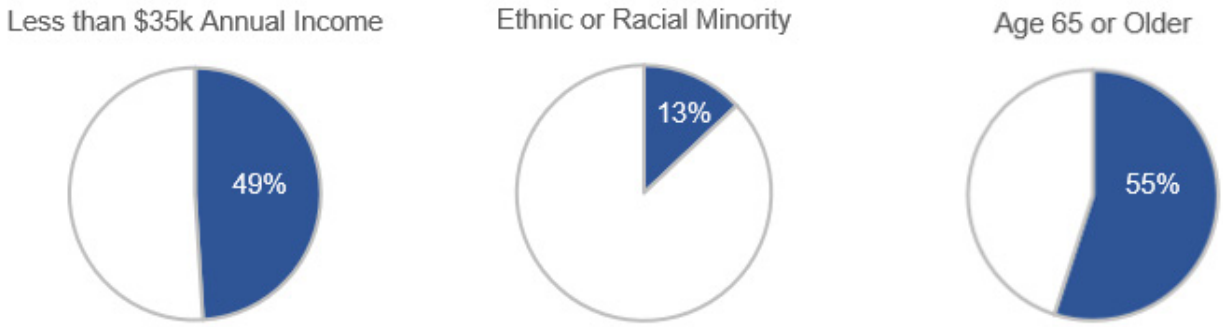
Source: FY 2018 Enrollees by County by Rurality

See Appendix C for a ranked list of all markets with FY 2018 percent rurality, and market rurality classification based on majority (urban or rural). See Appendix F and G for national-level submarket and sector rurality maps for more granularity.

While total eligible Veterans are projected to decrease 14% between FY 2017 and FY 2027 from 14.2 million to 12.2 million, enrollment is expected to remain stable with a projected 2% increase. [6] When assessing enrollment projections by market, urban markets are projected to increase enrollment by 3% from 6.9 million to 7.1 million enrollees and the rural markets are projected to decrease by 3% from 1.8 million to 1.7 million enrollees.

Rural Veterans are more likely to face economic and social challenges that influence their health care needs—49% earn less than $35,000 in annual income, 13% are minorities, and 26% do not access the internet at home. Lack of internet access at home can be due to living in an area without broadband availability, or if the service is financially prohibitive. Rural Veterans are also older—over half (55%) are over the age of 65, putting them at higher risk for age-related illnesses and making their care more costly. [7]

Figure 4: *Rural Veterans Economic and Social Characteristics that Influence Health Care Needs*

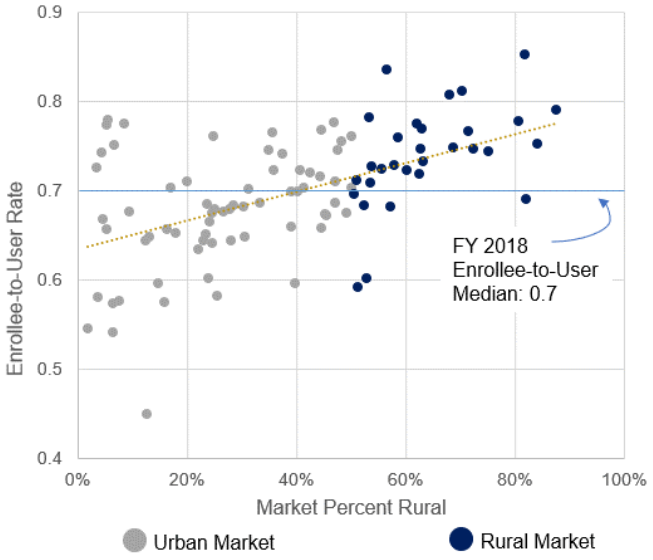


Source: U.S. Department of Veterans Affairs. (2020).

Dual Coverage and VA Reliance

Many Veterans age 65 and older have the option to receive health care benefits from Medicare and possibly Medicaid or other private insurance providers in addition to VA. About three quarters of enrolled Veterans are also enrolled in another health plan. [8] The Medicare system is broader than VA's and Veterans covered by both VA and Medicare benefits may have easier access and more options for their health care. Additionally, rural Veterans of working age who are dual enrolled in health care coverage through VA and a commercial plan are more likely to seek care at non-VA providers based on distance to a provider and greater availability of care options. [9]

Figure 5: *Market Percent Rurality and Enrollees-to-User Rates*



Even so, compared to urban Veterans, rural Veterans are more likely to enroll in VHA services. Of 4.7 million rural Veterans, 2.7 million (57%) are enrolled in VHA compared to the 37% of urban Veterans enrolled. In addition to being more likely to enroll, rural Veterans are more likely to use VA points of care. Based on FY 2018 enrollees and users, the more rural the market was, the more likely an enrollee was to use VA services, as illustrated in Figure 5.

Access

Rural residents typically drive farther to care than do urban residents. The Maintaining Internal Systems and Strengthening Integrated Outside Networks (MISSION) Act of 2018 influenced the establishment of drive time requirements for VA and Community Care Network (CCN) referral eligibility. The drive time requirements acknowledged rurality for partner providers in the CCN by developing different requirements for rural and highly rural areas, but not for VA points of care. The drive time requirements are more lenient on CCN third party administrators (TPA) in an apparent effort to provide more care options for Veterans in a broader service area. These are in alignment with similar Medicare Network Adequacy drive time ranges.

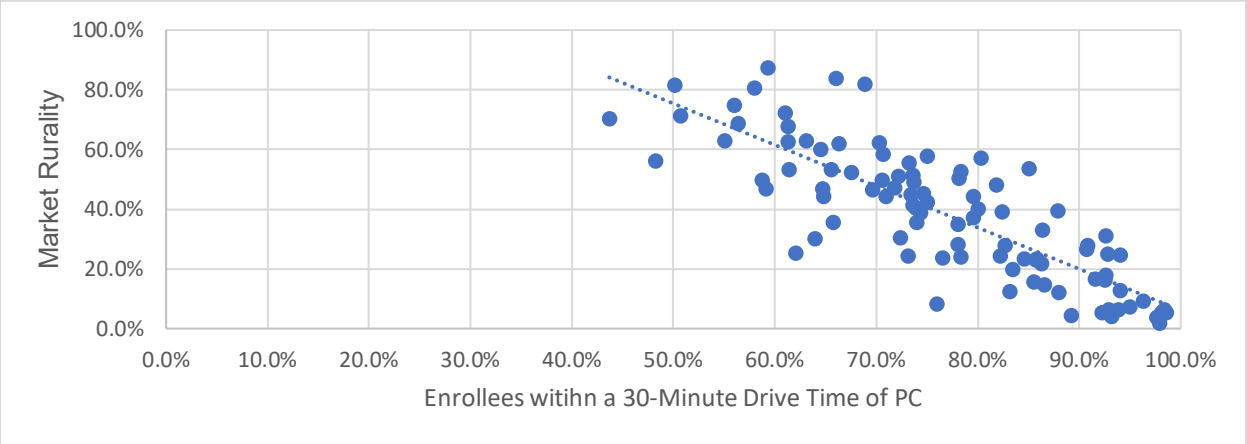
Table 1*: Primary Care and Specialty Care Drive Time Requirements Comparison*

	VA Access Standards			CCN TPA			Medicare Network Adequacy		
Specialty	**Urban**	**Rural**	**Highly Rural**	**Urban**	**Rural**	**Highly Rural**	**Urban**	**Rural**	**Highly Rural**
Primary Care	30	30	30	30	45	60	30	40	70
Specialty Care	60	60	60	45	100	100	50-100	75-110	95-145

Sources: VA. (2019). Veteran Community Care General Information Fact Sheet; CMS. (2020).

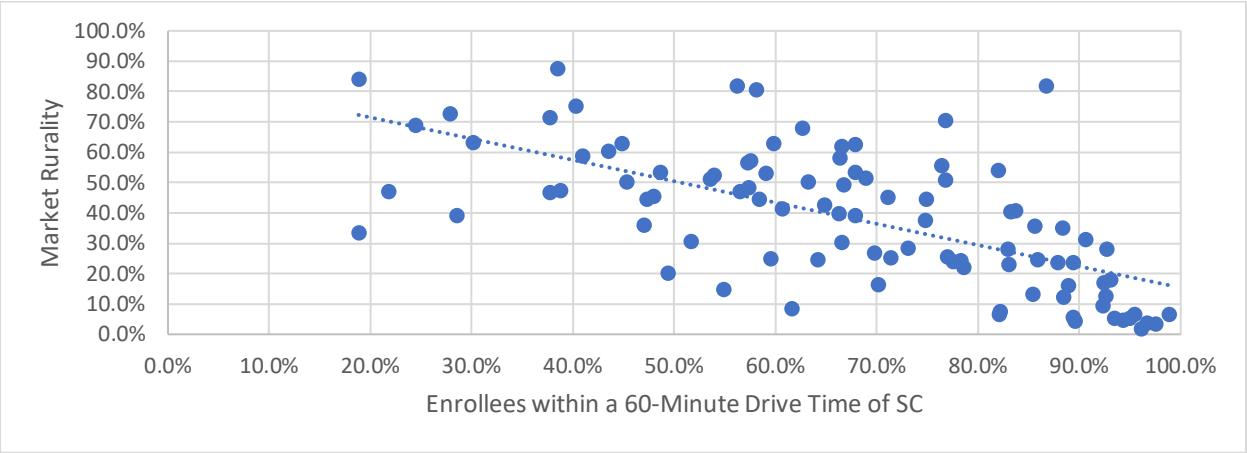
In FY 2018, there was a high negative correlation between rurality and access to VA primary care and mental health services. The more rural a market was, the fewer number of enrollees lived within 30 minutes of primary care.

Figure 6: *Percent Market Enrollees Inside 30-min Drive Time of Primary Care by Percent Market Rurality*



There was also a negative correlation, albeit lower, for rurality and access to specialty care (SC) services.

Figure 7: *Percent Market Enrollees Inside 60-min Drive Time of Specialty Care by Percent Market Rurality*



The average percentage of FY 2018 enrollees living within 30 minutes of primary care in rural markets was 64.7% versus 82.3% in urban markets. The national average was 76.8%.

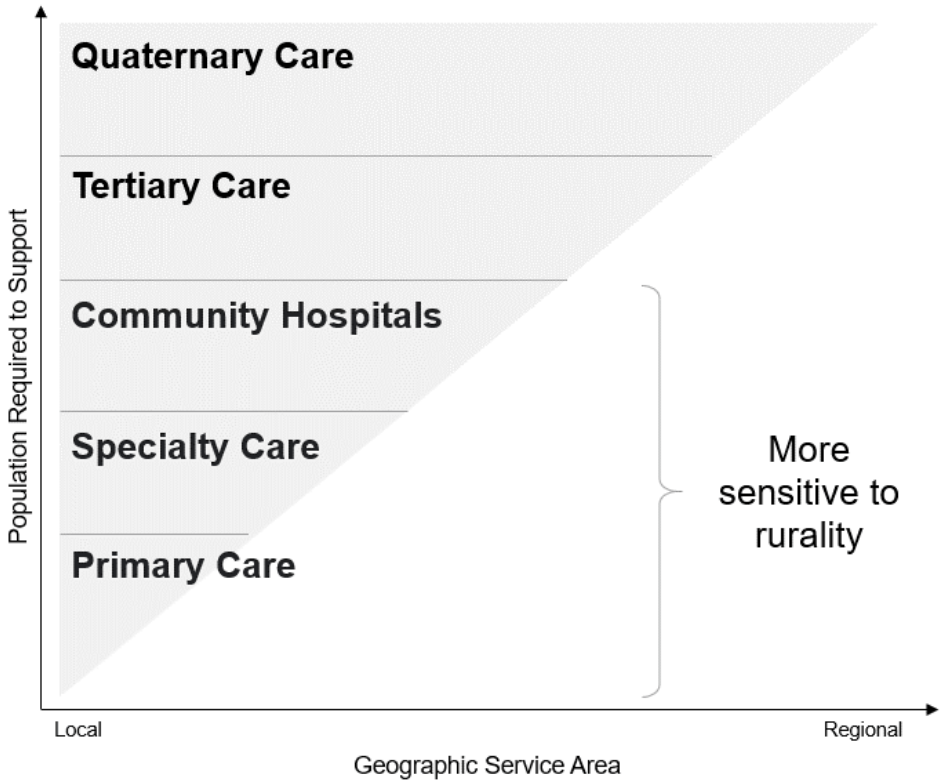
Table 2: *Average Percentage of FY 2018 Enrollees Within 30- and 60-Minute Drive Times of Primary Care*

	Average % Enrollees Within a 30-Min Drive Time of PC	Average % Enrollees Within a 60-Min Drive Time of SC	Market % Rural Average
Rural Markets	64.7%	55.0%	64.0%
Urban Markets	82.3%	73.0%	26.6%
All Markets	76.8%	67.4%	38.2%

2.3 Major Challenges Facing Rural Health

The main challenge of rural health care delivery is access—providing a continuum of services across massive geographies with few resources. Access to low complexity services such as primary care, low-acuity specialty care, and basic emergency care is a focus of rural planning. These services are needed at a community level and have the shortest drive time expectations, making them a challenge to deliver in rural areas. In contrast, more complex, acute services tend to be offered in urbanized areas that the general population is accustomed to traveling to.

Figure 8: *Continuum of Care Services by Geographic Service Area*



Rural care delivery challenges are exacerbated by provider shortages, hospital closures, and broadband gaps—challenges that further contribute to worse health outcomes among rural communities.

Vulnerable Populations in Fragile Markets

Declining population
Higher chronic conditions per capita
Disproportionate reliance on public payers

Growing population
Fewer conditions per capita
More likely to have balanced payer mix

Health Disparities

The Robert Wood Johnson Foundation's County Health Rankings evaluate overall health including behavioral health, clinical care, social and economic factors, and physical environment. The 2016 rankings revealed that rural counties had the highest

rates of premature death, overall rates of premature death were worsening in rural counties, and nearly 20% of rural counties have experienced worsening premature death rates between 2006 and 2016. [10]

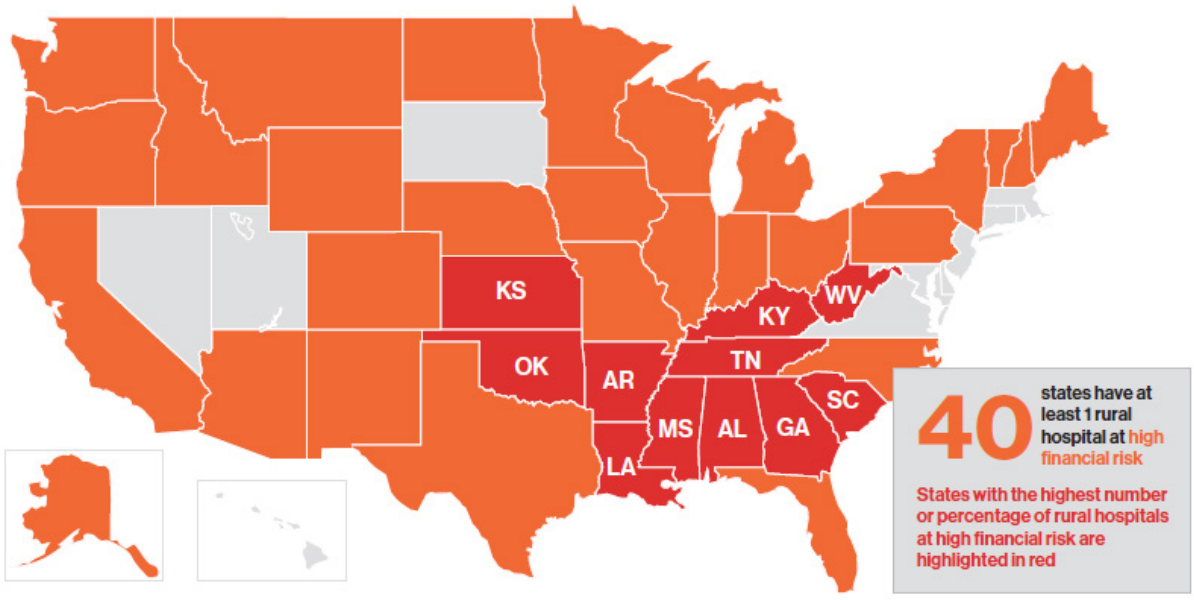
Patients living in rural areas are also at higher risk for complex health issues. [11] They are more likely to have health conditions including obesity, inactivity, being kept from work/daily activities due to physical or mental health challenges, smoking, drug and alcohol use, and chronic illnesses.

In summary, while there are fewer patients spread further apart across rural areas, there is an urgency to provide them with access to the continuum of health care services.

Rural Hospital Closures and the Community Impact

Over the last 10 years, at least 129 rural hospitals have closed in the United States. [12] A 2020 study found that one in four rural hospitals was at risk of closing unless its financial situation improves. Among these high-financial risk hospitals, nearly two-thirds (64%) are considered essential to their communities, based on an assessment of their trauma status, geographic isolation, and other factors. [13]

Figure 9*: States with at Least One Rural Hospital at High Financial Risk*[9]



*(CT, NJ, and RI have no qualifying rural hospitals).

At the time many rural hospitals were built, they were designed to accommodate higher inpatient demand than modern patients require, and a decrease in inpatient volume has resulted in underused space. The average occupancy rate in rural hospitals was 52%

compared to the "healthy" benchmark of 75%, [14] which is an indication of less volume than anticipated, or less volume than the hospital was originally built for, and consequently further financial strain due to higher overhead costs. [15]

As noted previously, a significant challenge to the stability of rural health care providers is the unbalanced payer mix among rural communities. Rural patients are more likely to be covered by Medicare, Medicaid, or to be uninsured than urban patients, and rural hospitals disproportionately rely on lower reimbursement rates for services. According to the American Hospital Association's 2017 Annual Survey Data, Medicare and Medicaid reimbursements are the majority of most rural hospitals' revenue, yet these payments typically under-reimburse hospitals compared to the cost of care. [16] Dependence on these programs places rural hospitals at greater financial risk and renders them less resilient to changes in reimbursement rates or coverage.

*A 2019 National Bureau of Economic Research study found **when a rural hospital closed, inpatient mortality increased by 8.7%,** whereas urban closures had no measurable impact* [85].

Hospitals are vital not just for health care in rural communities but also for the communities' economic health. Hospitals provide jobs, attract new businesses, and provide outside income from third-party payers. When a hospital in a community closes, per capita income decreases 4% and the unemployment rate rises 1.6%. [17] 25%, or 354, hospitals across 40 states are at high financial risk and may close. Of these high-risk rural hospitals, 81%, or 287, are highly essential to their communities. [9] See Appendix I for the Rural Hospital Sustainability Index Methodology.

These rural economic challenges tie to VA health care planning because Veterans rely on community and VA providers for care. Additionally, VA providers are often employed by both VA and another community health system. Without a community hospital, the provider may need or choose to relocate to earn sufficient income. When community options leave, the VA CCN suffers as well. It is essential to holistically assess the sustainability of services in rural areas, otherwise, Veterans and community members alike are forced to travel farther for care.

Infrastructure, Facilities, and Cost - Antiquated Infrastructure Costly to Maintain

The Government Accountability Office and other independent assessments have found that demand for health care services does not align with the resources or facilities available to Veterans and have also recognized the challenges updating aging infrastructure. The average age of VA-owned buildings is approximately 60 years. Older facilities typically have architectural details, such as lower ceiling heights and closer column placement, that limit VA's ability to modernize them in such a way that allows for contemporary health care service delivery and current life safety requirements.

As both the Veteran and general populations decline in rural areas, long-range planning should consider that decreasing patient volumes will result in even further underutilized, costly space to maintain.

Provider Recruitment and Retention

Though rural regions are home to 20% of the nation's population, they are home to only 12% of the nation's primary care clinicians. [18] In 2021, there are 7,290 Health Care Professional Shortage Areas (HPSAs) for primary care in the U.S., about double the amount the Health Resources and Services Administration (HRSA) reported in the early 2000s. More than 83 million people live in a primary care HPSA and 67% of HPSAs are rural. HRSA projects that 15,000 additional primary care clinicians nationwide are needed to meet the gap. [19]

Attracting physicians to rural areas is difficult for several reasons, including:

- For those with families, there are fewer opportunities for work and schooling in rural areas.
- Rural doctors often earn less, which is especially concerning to newly graduated physicians with student debt.
- Medical school culture often encourages specialization, diminishing (not necessarily intentionally) the importance of rural and family medicine.
- Work-life balance is especially difficult in rural areas where physician shortages cause long hours and high burnout. [20]

> *Rural regions represent 20% of the nation's population,* ***but host only 12% of U.S. primary care physicians.***
>
> - Stajduhar, T. (2020, Jan.). *Rural Recruitment: Results from our Rural Physician and Administration Survey*. Jackson Physician Search.

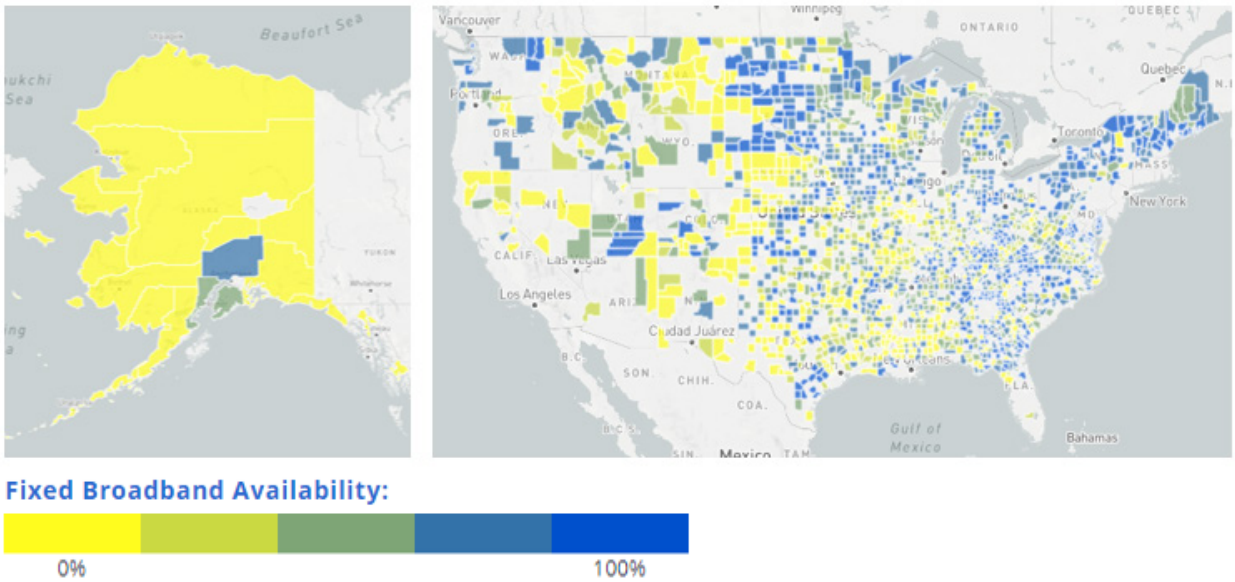
Traveling physicians often split time between cities where they live and rural health centers with few physicians. Obtaining out-of-state licenses is a challenge — traveling physicians or the health centers they travel to may be responsible for obtaining licenses to practice in multiple states. Some health care staffing companies are trying to mitigate this challenge and provide more flexibility for physicians and health centers by obtaining this licensure on behalf of the clinicians and health centers. [21]

Telehealth Broadband Challenges

In 2016, 24 million Americans and 31% of rural households did not have access to broadband internet at home. [22] For many Americans, lack of access to internet is due to its high cost or limited availability in rural areas. While telehealth is a growing solution to limited health care access, internet access does not reach all rural areas, creating additional barriers to health care for some communities. The below figure illustrates

counties with greater than 50% of their population living in rural areas by the county's corresponding percent of fixed broadband availability.

Figure 10*: Federal Communications Commission (FCC) Broadband Availability, Showing Counties with Greater than 50% Rural Population*



Source: FCC.gov. Please note while maps are from FCC, there have been reported accuracy concerns.

The 2019 Survey of Veteran Enrollees' Health and Use of Health Care found that internet use among enrolled Veterans varied by age and income level. In 2019, 97.2% of enrollees under the age of 45 used the internet, compared to 65.8% of enrollees over the age of 65 and internet use among enrollees with an annual income greater than $35,000 was 21.4% higher than lower-income enrollees. [23] The most common setting that enrollees accessed the internet was at home (91.2%). With challenges to accessing to broadband internet in rural areas, and the understanding that rural enrollees are more often older and have lower incomes than urban enrollees, rural enrollees face additional barriers to accessing internet and telehealth care.

2.4 Evolutions in Health Care Delivery

There are several widespread trends that provide more accessible care while improving quality including technology-enabled care, convenient retail clinics, and advancements in medicine that allow volume to shift to lower-acuity settings.

Technology-Enabled Care

There are numerous technology-enabled solutions emerging in health care today such as robotic surgery, advanced analytics enabled by electronic health records and wearable devices. Similarly, artificial intelligence aids in diagnosing and care planning. The most ubiquitous example, however, is telehealth, and while the COVID-19

pandemic has been devastating, one benefit has been the increased adoption of telehealth services.

Telehealth may involve the use of electronic information and telecommunication technologies to support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration.[24] Services such as primary care, mental health, and some specialty care are currently available through a variety of telehealth methods, including:

- Video encounters
- Sharing of digital photographs to aid in diagnosing and care planning
- Remote patient monitoring including the use of wearables

> *"… (Some health care professionals) predict that **20-30% of routine visits will become virtual ones."***
>
> - Harpaz, F. J. (2020, May). *5 Reasons Why Telehealth is Here to Stay (COVID-19 And Beyond). Forbes.com*

Telehealth enables hospitals to connect with experts anywhere to deliver high-quality care to patients with complex or urgent needs. This is particularly beneficial to rural hospitals, for which resources are more constrained.

Additionally, telehealth could prove to be a lower-cost option to delivering care. The COVID-19 pandemic caused payers and providers to change policies to encourage continued services, such as changes to telehealth encounter reimbursement and cross-state provider privileging. The permanence of policy changes is unknown at this time, however, industry experts suspect policies will not be as restrictive as prior to the pandemic. This would allow for further exploration of cost savings and other benefits telehealth can provide.

Convenience and the Future Consumer

Retail clinics are more prevalent in urban areas but represent an area of opportunity for rural communities

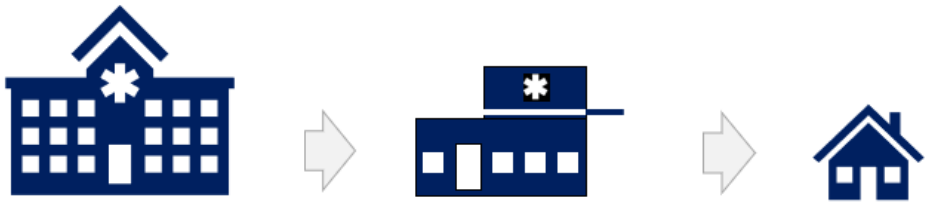
Today's customers demand convenience. In the past, health care was not subject to consumer demands, however, that is no longer the case. Advancements in technology as well as megamergers have changed consumerism across many industries (for example, Cigna and Express Scripts, and CVS and Aetna in health care, and Amazon and Whole Foods in retail).

Also referred to as convenient care clinics, retail clinics provide affordable, low-acuity and preventative care services in a retail setting, such as CVS, Walgreens, Kroger, Walmart, and Rite Aid. They typically have short wait times and direct access to medications through an embedded pharmacy. As of 2018, there were 2,700 retail clinics across 44 states and Washington, DC, visited by more than 40 million patients. [25]

Most of these clinics are in metropolitan areas. Though 21% of the U.S. population lives in medically underserved areas, in 2019 only 12.5% of retail clinics were located in those areas. This is not because there are not retail options in rural areas, therefore, retail clinics have an opportunity to increase access to care in underserved parts of the country. [26]

Because typical patients of retail clinics are from urban areas and younger than 60 years of age (unlike rural Veteran enrollees), the takeaway for VA rural health care planning is the shift in overall consumer behavior that expects convenience, as well as the potential of retail clinics as additional points of preventative and primary care services in rural areas.

Shifting to Lower-Acuity Care Settings



Inpatient to outpatient

Advances in medicine and technology have allowed for changes to where health care is delivered. A 2015 VA facilities assessment found that between 2007 and 2014 outpatient visits increased by more than 40% and inpatient bed days decreased by 9%. Some VISNs had a decrease in inpatient bed days as great as 21% and expect an additional 50% decrease over the next 20 years. [27] Ambulatory surgery in particular is an area where volume shifted from inpatient to outpatient, and a resulting effect has been an increase in ambulatory surgery centers across commercial markets.

Outpatient observation in lieu of admitting

A downstream complement to the advancements noted above is the emergence of observation patient status. Observation status, a designation used by hospitals that bill to the Centers for Medicare and Medicaid Services (CMS), as well as used by VA, is used when a patient is kept in a bed post-procedure or after being triaged for an urgent care visit and is classified as an outpatient level of care. For CMS, there are payer implications to this status. For VA, there are department and facility classification implications. An important planning consideration is that a point of care could provide urgent care services with observation rather than providing inpatient hospital services when there are nearby hospital services available. This keeps urgent care services within a community and without the cost of operating a hospital when there are referral networks available.

Outpatient to home

In addition to the accelerated adoption of telehealth, other services along the continuum of care continue to see shifts in care to the home, including rehabilitation activities and hospital services (also known as “Hospital at Home”).

These downstream shifts are notable to long-range planning because it should be acknowledged that, while having a level of hospital or urgent/emergency care presence is important, hospitals and even medical office buildings utilization is changing. Lower-acuity care settings should be considered when a suitable referral network can be established.

2.5 VA Rural Health Solutions and Resources

Rural Health Care is Bigger than one Office or VA to Solve Alone

Developing solutions to improve access to care for rural Veterans is a collaborative effort among Federal and local agencies. Currently within VA, the ORH, Office of Connected Care, and SCSP are among these participants. Together with the Chief Strategy Office and Office of Construction and Facilities Management, these offices can collaborate moving forward, leveraging one another’s’ respective areas of expertise to develop innovative, robust long-range care delivery strategies. Progressive programmatic solutions in place or under development include, but are not limited to:

- Telehealth Clinical Resource Hubs
  - Tele-Primary Care
  - Tele-Mental Health
  - Tele-Specialty Care
  - Tele-Oncology
- Tele-Intensive Care Units
- Digital Divide Consults, and Zero-Rating Initiative
- Advance Telehealth Through Local Area Stations (ATLAS) partnerships
- VHA/Indian Health Services (IHS) partnerships
- Mobile Medical Units

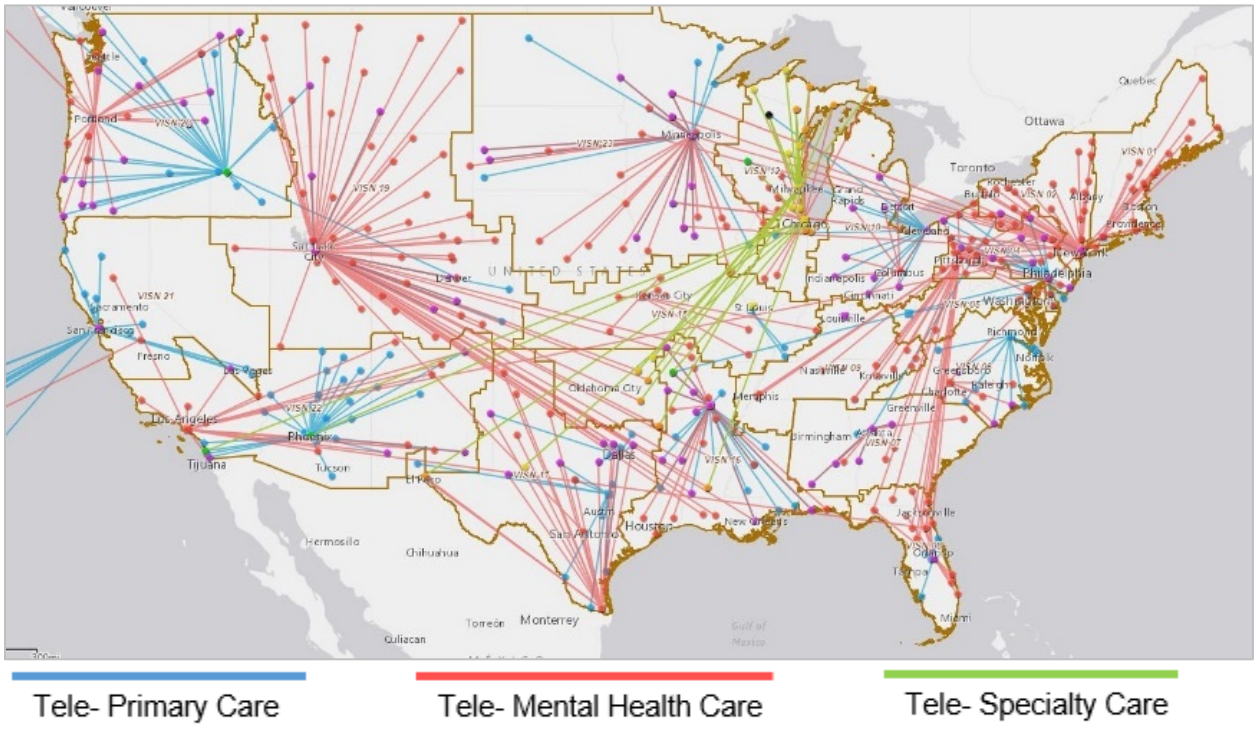
Leveraging these solutions, as well as telehealth-only primary care clinics, VA was successful in delivering more than 2.5 million telehealth episodes in 2019. [28]

The three noted offices work on other mission-critical initiatives such as workforce and provider training, special population research, and suicide and opioid abuse prevention, however, this planning strategy will focus primarily on health care delivery solutions. Additionally, this strategy outlines the intersection of these offices’ work with that of the Chief Strategy Office and the Office of Construction and Facility Management for the purposes of long-range care delivery planning, highlighting future collaboration opportunities.

Telehealth Clinical Resource Hubs

VA telehealth clinical resource hubs are a network of hubs and spokes that connect providers in resource-rich areas (hubs) to areas with provider challenges (spokes). The hub provider delivers video services to the Veteran at either the spoke site (in-person with other on-site clinical staff), the Veteran's home, or other preferred locations. In 2020, the hub and spoke programs were still growing, however, there was at least one clinical resource hub established in each VISN supporting both primary care and mental health. A few have also begun creating networks for specialty care. Looking ahead, the Clinical Resource Hubs can be woven into health care planning as a method to supply care for future Veteran demand.

Figure 11: *VA Tele-PC, Tele-MH, and Tele-SC Clinical Resource Hub Networks*



Source: VA ORH. 2020.

VA Tele-Intensive Care Units

VA and Philips partnered to develop a nationwide tele-Intensive Care Unit (eICU) program that connects Veterans and their bedside VA providers all around the country to a VA intensivist when needed. The program is designed using a command center model, or centralized operations center model, where a team of critical care physicians and nurses based out of the Minneapolis VA Medical Center (VAMC) support participating VAMCs in Fargo, North Dakota, Omaha, Nebraska, and 36 other VAMCs.[29] In June 2020, VA awarded Philips a 10-year contract to expand the telehealth partnership. Details of the successes and importance of securing critical care providers for rural Veterans are in Section 3, Leading Practices.

Digital Divide Consults and Zero-Rating Initiative

As previously noted, broadband is a limiting factor to leveraging telehealth solutions. The FCC estimates that 15% of Veteran households do not have an internet connection. [30] To address this gap, VA provides Digital Divide Consults to Veterans without internet access or the tools necessary for web-based encounters. Through a Digital Divide Consult, a VA social worker assists Veterans, especially older Veterans, those in rural areas, or those facing housing insecurity or homelessness, by identifying programs they can use to get internet service or technologies needed to access VA telehealth. Digital Divide Consults help connect Veterans with programs such as the FCC's Lifeline program (subsidized home broadband and phone services), and SafeLink by TracFone, as well as T-Mobile and Verizon (free mobile connectivity for VA Video Connect visits). Other partners include Apple, providing access to programs for Veterans needing smartphones or tablets. [30] [31] T-Mobile launched a $14M campaign to communicate the availability of their services with this national commercial, which was co-produced with VA, and reached a potential 800M viewers. Digital Divide Consults and other initiatives contributed to a more than 1,600% increase in weekly VA Video Connect visits between February and November 2020, which reached a one-day peak of 41,000 video appointments. [32] In addition, the aforementioned telecom providers have eliminated all data charges for Veterans and Caregivers connecting through the VA Video Connect application.

Image source: connectedcare.va.gov

Initiatives to establish and enhance rural Veterans' access to broadband for telehealth continue to grow. For example, VA is working with Microsoft on its Airband Initiative to create and improve broadband connectivity in underserved rural areas to eliminate the rural broadband gap, and to provide Veterans access to free digital skills classes through the Microsoft Software and Systems Academy. [32] [33] Even with these successful initiatives, there are still parts of the country in which broadband is unavailable. In these locations, Accessing Telehealth Through Local Area Stations (ATLAS) sites represent potential solutions.

ATLAS

Working with The American Legion, Veterans of Foreign Wars, Philips, Walmart, and other public and private partners, VA developed the ATLAS program. ATLAS sites are telehealth posts designed to bring convenient telehealth services to

Figure 12: *ATLAS Privacy Pod*

Veterans in rural communities by providing a private space in an accessible location equipped with technology for video conferencing with VA providers. As of March 2021, there were eight ATLAS sites in Arizona, Iowa, Michigan, Montana, North Carolina, Pennsylvania, Texas, Virginia, and Wisconsin. Seven additional sites are planned in Veterans of Foreign Wars post, and American Legions across the country. Each site is associated with a VA facility that manages the clinical services available through the ATLAS site. Services may include primary care, mental health care, social work, pharmacy, and others. This video demonstrates the effect ATLAS has on Veterans. As part of the ATLAS initiative, VA also partnered with Walmart to create a private room in five rural store locations where Veterans can schedule telehealth sessions with their VA providers using Walmart's broadband connectivity services.

Mobile Health Clinics

Mobile health clinics provide preventative and primary care services to patients in underserved and/or isolated areas of the country. Mobile clinics provide versatility without the higher overhead costs of facilities and fill gaps in the health care safety net, reaching social-economically underserved populations in both urban and rural areas. [34] There are an estimated 2,000 mobile health units across the country that deliver between five to six million visits annually. [35] Mobile clinics are currently a delivery option within VA and are referred to as Mobile Medical Units. One challenge with mobile units is the extended downtime of the unit's physician due to travel time, an inefficient use of an in-demand resource. An example of overcoming this challenge is found in the VISN 19 Cheyenne Market. Cheyenne Market had a program that deployed nurses and medical assistance out in the mobile unit that connect to a provider through telehealth when needed. [36] In addition to being an efficient use of staffing resources, this model illustrates how two solutions (mobile units and telehealth) can complement one another. Similarly, mobile units could make visits to ATLAS locations on a routine bases to provide in-person care services.

2.6 Commercial and other Federal Rural Health Solutions

Commercial Provider Trends

Ongoing Consolidations: Mergers, Acquisitions, and Partnerships

One of the largest trends across the industry is the consolidation of health care payers, providers, and systems through mergers, acquisitions, partnerships, joint ventures (JV), and other deal structures. As noted in an earlier section, even retail companies are entering the industry through massive multi-billion-dollar acquisitions. There are many benefits to a well-designed partnership including gained economies of scale, operational efficiencies, expanded geographic footprint, and/or expanded position in the care continuum, however, the main drivers for consolidation are to increase market share and increase contract negotiating power. [37]

A notable player in consolidations and partnerships occurring across the country are the academic medical centers.

Duke LifePoint Healthcare in North Carolina is a joint venture between Duke University Health System and LifePoint Hospitals. Part of the vision of Duke LifePoint Healthcare is connecting regional and community hospitals by building a network of hospitals, physicians, and other health care providers. [38] In 2014, it delivered on this mission by acquiring WestCare Health System, adding two hospitals and an outpatient medical park in the western, more rural part of North Carolina, and connecting them to its existing, robust network in the central part of the state, home of Duke University Medical Center in Durham.

Another example, while not a merger, is the alliance between seven University of Alabama Birmingham Health System locations and eight Ascension St. Vincent's locations. Locations will remain under the management of their respective entities, however, patients across the state will have improved access and options of care services, and together the health systems will provide improved coordination of care. [39]

Other examples include University of Colorado Hospital's partnership with Poudre Valley Health System, Loyola University Medical Center's merger into Trinity Health, and UC San Diego Health System's acquisition of the Nevada Cancer Institute in Las Vegas. [40]

Considering VA's long-standing relationship with academic affiliates, any established network an affiliate gains through consolidations should be assessed for added access points for Veteran care.

Virtual Care Centers

Telehealth use was increasing prior to the 2019 pandemic, especially during recent years. According to a 2019 study, health systems offering telehealth services increased from 39% to 64% between 2017 to 2019. [41] Telehealth has dramatically increased in response to COVID-19, with a more than 3,060% increase of national telehealth claims between October 2019 and October 2020. [42] Post-COVID-19, some level of telehealth services will be expected by most consumers. [43] To offset the cost of initial technology requirements and to leverage economies of scale, some commercial groups are pooling resources in centralized, command center-type virtual care centers. These centers can provide everything from advice nurses and primary care providers to highly specialized intensivists under one roof. Two leading examples of this model are Mercy Virtual in Chesterfield, Missouri, and the St. Luke's Virtual Care Center in Boise, Idaho, which are highlighted in Section 3, Leading Practices.

Micro Hospitals

Micro hospitals have emerged as a lower cost alternative to larger hospital footprints. While there are several different levels of micro hospitals, the common characteristics that define a micro hospital are a basic level of emergency care and inpatient medicine

services, supporting ancillary services (minimal imaging, pharmacy, and laboratory), as well as on-site primary care services. While a Critical Access Hospital (CAH) can have up to 25 beds, a micro hospital typically has between eight and 15 beds and has an established referral partnership with a nearby tertiary hospital for patients requiring a higher-level of care. They are newly constructed facilities and could have the potential to help in vulnerable communities that have a lack of access.
For example, Springwoods Village Hospital, a micro hospital in the Houston, Texas area, has four inpatient beds, four operating rooms, a ten-bed emergency department, and other outpatient services. The micro hospital is part of Catholic Health Initiatives St. Luke's Hospital system in Houston, which had 50 access points of care in 2017. The design is intended to expand the health system's footprint in Houston and provide more access points for the health system's patient along the continuum of care. [44]

Figure 13: *Christus Health Micro Hospital, Southeast Texas*

In 2020, the Northwest Indiana ER and Hospital opened in Hammond, Indiana, to offer 24/7 emergency care to its community. The micro hospital covers 18,000 square feet and includes on-site imaging, eight emergency room beds and six inpatient beds. [45]

Today's micro hospitals are typically located in urban or suburban areas and are used as a strategic tactic of larger hospitals to extend their geographical footprint into new markets and to increase their referral base. Micro hospitals are notable for this Rural Health National Planning Strategy because they illustrate an option for providing basic primary and urgent care access to a community outside of a traditional hospital setting.

Federal Providers

Indian Health Service

IHS is an agency within HHS whose purpose is to provide health care services to American Indians and Alaska Natives (AI/AN). IHS provides comprehensive health care through a system of 149 hospitals, health centers, health stations, and specially trained tribal members to approximately 2.6 million AI/AN who belong to 574 recognized tribes in 37 states.

There are a few innovative delivery models that IHS and VA have developed collaboratively to increase access to care in rural areas that should be further explored across the country.

VA Outpatient Clinics in IHS Facilities

IHS partners with VA by providing leased space within IHS facilities to provide care to AI/AN Veterans. These leased space locations, mostly in the Western United States, are on tribal land and are typically small. These sites often provide virtual health care services via VA Clinical Video Telehealth, with some providing lab services, as well as an occasional rotating provider.

For example, the Northern Arizona VA Health Care System has four Primary Care Telehealth Outreach Clinics ranging in size from 264 to 800 square feet. Three of the clinics are located within the Navajo Reservation and one is located within the Hopi Reservation. All four are located within the IHS tribal health care facilities. These clinics have two staff members: a technician and an administrative person. Visits to these clinics are for scheduled care via Clinical Video Telehealth and less episodic care. These clinics expand access to Veterans in rural areas where it is not feasible for VA to lease a standalone site of care.

AI/AN – VA Memorandum of Agreement (MOA)
The Kodiak Area Native Association (KANA) in Alaska operates a AI/AN health clinic on Kodiak Island that is also licensed as a Federally Qualified Health Center (FQHC) and has a MOA with VA to provide community-based outpatient clinics to all Veterans on the island regardless of whether they are AI/AN. This allows three Federal organizations – IHS, VA, and HRSA – to serve beneficiaries in the same facility.

While all Federally recognized Tribal Health Organization (THOs) are funded by IHS, some of these organizations are operated by IHS while others are operated by the Tribe. This was made possible in 1975 with the Indian Self-Determination and Education Assistance Act (ISDEAA) (Public Law no. 93-638). Tribes may operate a few health care service lines or “compact” for complete operation of their health care system. Fully compacted THOs have more flexibility in their operations than their IHS operated peers, thus encouraging entrepreneurial business opportunities like KANA’s MOA with VA.

CMS and Health Resources and Services Administration (HRSA)

CMS and HRSA use several facility designations for reimbursement purposes or grant and program funding purposes: Rural Health Clinics (RHCs), Federally Qualified Health Centers (FQHCs), and CAHs. These designations were created to acknowledge the need for more favorable reimbursement rates and support in underserved areas of the country in order for providers to remain financially stable.

To be designated as an RHC, FQHC, or CAH, the facility must meet several CMS conditions as well as state and Federal requirements. These facilities have been pre-vetted by their respective state and the Federal government and were deemed acceptable for millions of Medicare and Medicaid beneficiaries.

- **RHCs** are clinics that provide primary and preventive care services in a non-urbanized area that is also either a Health Professional Shortage Area

(HPSA), a Primary Care Population Group HPSA, a medically underserved area, or Governor-designated and Secretary-certified shortage area. There are approximately 4,500 RHCs nationwide. [46]

- **FQHCs** are similar to RHCs but a center cannot be designated as both. FQHCs also serve underserved areas but there is no rurality requirement. According to Definitive Healthcare, there were 1,368 FQHCs in the U.S. in 2019.
- **CAHs** are located in rural areas, offer 24/7 emergency services, have 25 inpatient beds or fewer, have annual acute care length of stay of 96 hours or less, and are located more than a 35-mile drive (or 15 miles in mountainous terrain) from any other CAH or hospital. [47] In 2018, there were 1,343 CAHs in 45 states.

Another reimbursement designation that is tied to the facility setting is a hospital within a hospital (HwH). A HwH is a hospital that occupies space in a building also used by another hospital, or in one or more separate buildings located on the same campus as buildings used by another hospital. [48] The contractual arrangements between the two hospitals may vary across HwH models. Services may include any combination of outpatient or inpatient care and can vary in size and scope from one service to many. The level of VA's presence and capital and operational responsibilities may also vary.

HwH can be beneficial to hospital groups by streamlining referrals, maximizing the use of high-cost hospital space, and improving coordination of care between each entity. This may be particularly beneficial in rural areas. [49] In May 2019, CMS issued draft guidance to provide more flexibility in hospital co-location arrangements. The new guidance aimed to be less prescriptive and allow for more efficient use of shared public spaces and "paths of travel" such as waiting rooms, hallways, elevators, and so forth.

Common examples of HwH are long-term care hospitals located within an acute hospital's facility or campus. Services provided in these HwH can include inpatient rehabilitation for brain injuries, stroke, and spinal cord injuries, or skilled nursing facility services. Select Medical and Kindred are two of the largest players in the long-term care hospital HwH space. Kaiser Permanente also leverages the HwH model for inpatient acute services, as well as for long-term non-acute care such as at skilled nursing facilities, in some regions.

Military Health System

The Military Health System (MHS), like VHA, is a large, complex health care institution and supports 9.5 million active duty personnel, military retirees, and their families, with 8.9 million beneficiaries within the U.S. [50] Rural health care is not a major concern for MHS. Though the military stations active duty service members and family members in rural areas, most beneficiaries live near the installation, which usually has a clinic or Military Treatment Facility providing access to beneficiaries.

Partnership structures are locally driven and vary across MHS. Partnerships can range from back office and equipment sharing, to training and provider resource sharing, to facility sharing. The Defense Health Agency (DHA) is in the process of converting all the relationship-based partnerships into a formal oversight process in which each contract is vetted and guarantees data back to the MHS. One example of a relationship-based partnership is the informal partnership between Travis Air Force Base and IHS in Solano County, California. The base provides surgery and other high readiness value procedures to the IHS patient population if the local IHS facility cannot perform them. Another strong example of Federal systems working together is in Anchorage, Alaska, at the Elmendorf Air Force Hospital where VA has a multi-specialty community-based outpatient clinic (MS CBOC). Beneficiaries of DHA, VA, IHS, and Alaskan Tribes are all served on this one campus.

There is a spectrum of existing partnerships between VA and MHS for health care services from leasing operating rooms, to leasing clinic space, to a fully integrated Federal health care center.

The Honolulu VAMC in Hawaii is an example of VA occupying space within a host hospital. The Honolulu VAMC (HwH) is co-located with Tripler Army Medical Center (host hospital), a full-service academic medical center. The current sharing agreement allows dual-credentialed attending physicians to rotate between the two facilities to provide inpatient mental health services.

Figure 14: *VA-DOD Lovell Federal Health Care Center*

Image source: gao.gov

The Lovell Federal Health Care Center in North Chicago, Illinois, is a first-of-its-kind partnership between VA and the DoD, integrating operational readiness and Veteran health care services in a shared facility. Unlike the HwH model where both hospital entities remain separate and operate under their respective management, this is an integrated organization with shared leadership and operational directives. As the

Veteran and military population changes in the future, there may be opportunities to develop similar models in other markets.

These are just a few examples of Federal health care systems working together to optimize assets and extend access to beneficiaries.

State and Local-level Involvement

State legislation addressing local needs

State, tribal, local, and territorial public health agencies have great insight into the challenge areas of their constituents, and several states have designed and passed legislation to address their specific issues. Two examples are Mississippi and Tennessee.

In 2012, Mississippi began using telehealth to mitigate extreme physician shortages. To make this successful, the state required insurance companies to reimburse telehealth visits the same as they would for in-person for providers to have an adequate return on their investment. Details of this successes of this model are in Section 3, Leading Practices.

In 2018, Tennessee's Department of Economic and Community Development passed the Tennessee Hospital Transformation Act that provided aid to rural hospitals to create "transformation plans," in response to numerous rural hospital closures. The state funded the development of each participating hospital's transformation plan to not further burden hospitals' financial performances. Each plan outlines how the rural hospital can improve financial performance to continue to serve the community.

State Hospital Associations

While all states have a hospital association, Colorado (Colorado Hospital Association) is an example of an association that has a specific Rural Health and Hospitals division that aids state rural hospitals in identifying programs available to them, as well as identifying cross-hospital opportunities. In this way, they provide statewide oversight as well as tools for implementing organizational best practices (governance and leadership, clinical care, and emergency preparedness and resilience guidance).

Local Agreements

In 2012, VA entered into a partnership with the DoD and 26 Native health care organizations that allows Alaska Native and non-Native Veterans to receive health care services from tribal health providers. [51] Each Tribal Health Program was able to negotiate their own terms and sign their own agreement with VA. [52] This created a consortium of providers with the common objective to serve AI/AN residents as well as

non-Native Veterans. The details and successes of this model, the Alaska Native Tribal Health Consortium (ANTHC), are included in Section 3, Leading Practices.

2.7 Rural Health Care and VA's Fourth Mission

VA's "Fourth Mission" is "to improve the Nation's preparedness for response to war, terrorism, national emergencies, and natural disasters by developing plans and taking actions to ensure continued service to Veterans, as well as to support national, state, and local emergency management, public health, safety and homeland security efforts." [53]

As outlined in previous sections, rural health care markets are more fragile than urban markets and are currently faced with a higher rate of provider shortages and hospital closures. VA can deliver on the Fourth Mission to ensure continued service to Veterans, as well as to support national, state, and local emergency management, public health, and safety by ensuring future care delivery solutions can be supported at a level that does not jeopardize the sustainability of the community's health care market.

In addition to the Fourth Mission, the MISSION Act also charges VA to "consider the unique ability of the Federal Government to retain a presence in an area otherwise devoid of commercial health care providers or from which such providers are at risk of leaving." [54] This, coupled with the Fourth Mission, highlight how partnerships with community providers to establish more stable health care markets align to VA's organizational mission, as well as meet MISSION Act obligations.

3. Leading Practices

Leading practices revolve around quality improvement and partnership development

Value-Based Payment Models

Pennsylvania Rural Health Model

The Centers for Medicare and Medicaid Innovation and the Commonwealth of Pennsylvania have designed and piloted the first alternative payment model that aims to address the financial challenges faced by rural hospitals. The alternative payment model, the Pennsylvania Rural Health Model, does away with the traditional fee-for-service model that can result in unpredictable revenue and establishes a value-based global budget payment system that provides added financial stability. The pilot launched in 2019 and, as of 2021, the model includes public payers (Medicare and Medicaid), several private commercial plans, and 18 participating hospitals. [55]

The program is designed to financially incentivize hospitals to improve quality, increase access to primary and preventative care, and generate savings to Medicare. Each participating hospital must develop a Hospital Care Delivery Plan detailing how they will redesign their care model to meet model targets (financial, population health outcomes, access, and quality targets).

Pennsylvania may tie financial incentives for participating rural hospitals to the commonwealth's performance on:

- **Increased access** to primary and specialty care
- **Reduced rural health disparities** through improved chronic disease management and preventative screenings and
- **Decreased deaths** from substance use disorder and improve access to opioid abuse treatment.

Global budgets are prospectively set based primarily on previous historical revenue from participating payers. Global budgets fundamentally change the fee-for-service structure, which rewards volume, and instead encourages quality improvement. The Pennsylvania Rural Health Model is a six-year program scheduled to complete in 2024. [56]

Community Health Access and Rural Transformation (CHART)

Similar to the Pennsylvania Rural Health Model, the Community Health Access, and Rural Transformation (CHART) model establishes a value-based payment system. In early 2020, the Centers for Medicare and Medicaid Innovation launched CHART, a reimbursement program which provides upfront investments and predictable payments to rural health care providers based on quality and patient outcomes, instead of volume. [36] Upfront payments intend to increase the financial stability of rural health care

providers and support continued services for rural communities. [57] The program is designed to support 15 rural communities and 20 rural-focused Accountable Care Organizations that, after application and acceptance, must develop strategic transformation plans to meet model targets.

As a result, payers have acknowledged that volume-based payment structures further the equity gap between urban and rural areas, and that incentivizing improved outcomes is a win-win-win for payers, providers, and patients.

As VA's CCN continues to evolve, VA should consider the use of value-based payment models to promote high-quality, sustainable care to Veterans, which is permissible per Section 101, Establishment of Veterans Community Care Program, of the MISSION Act.

Partnerships

Public-Private Partnerships

There are many definitions of a Public-Private Partnership (P3). VA Directive 0008 defines one as "a voluntary, collaborative, working relationship between VA and one or more non-governmental organizations in which the goals, structures, governance, and roles and responsibilities are mutually determined to deliver the best possible services. P3s provide the capacity to achieve what may not otherwise be achieved by VA alone. Effective P3s draw together different organizations with complementary and reinforcing strengths, allowing each partner to focus on its central capacities and assets to produce outcomes with greater impact than may be achieved independently by a single organization."

> ***"No one organization within a rural community has the resources sufficient to address all the problems that need to be addressed****… because of that, people and organizations within rural communities come together, and work together, in a way that is much more natural than those in urban communities."*
>
> *- Michael Meit, MA, MPH, recipient of the National Rural Health Association's 2019 Outstanding Researcher award*

MAHSO focuses on infrastructure and capital investment. Therefore, across MAHSO the term P3 most often refers to transactions representing a delivery mechanism that produces infrastructure necessary to provide a community benefit such as reduced highway congestion, increased health care access, or job creation, through private sector financing, and often-times private sector management, of either development or operations or both. The initial investment cost may be partially offset by public sector contributions of real property rights (ground lease, use and access agreement, easement) and possibly existing infrastructure (improvements to the land, often aging and unmaintained). The balance of the initial investment cost is financed through commercial sources on the basis of projected demand-based user fees, or public sector payment obligations.

Rural hospitals have opportunities to transform their business models to drive financial viability. The challenges vary by hospital, but independent rural and critical access hospitals may benefit from accessing scale through partnerships with regional tertiary and academic health systems, other rural facilities, physician groups, payers, accountable care organizations, nearby VAMCs, and other entities. Areas of collaboration can include clinical service line optimization, potentially through co-location and consolidation of multiple service providers into a single location, thereby making the combined facility more viable. Through these partnerships, rural providers (including VA) can leverage one another's capabilities, eliminate duplicative services and harmful competition for hard-to-recruit specialties, and create more stable, sustainable health care markets.

There are three main components of a P3 – funding the project, delivering the project, and the post-project ongoing operations. The public and private entities involved can serve in any combination across these roles, however, typically the private sector entity plays the construction and project delivery role. The below figure illustrates one example of a P3.

Figure 15: *Illustrative Example of a Health Care Facility P3*

States, the District of Columbia, and Federal agencies have offices of public-private partnerships to aid in the successful use of P3s. Health care P3s have been successful in Canada, given the country's single-payer health system. A recent successful P3 was the Centre Hospitalier de l'Université de Montréal (CHUM) in Montreal, Quebec, which merged three aged hospitals (one originally built in 1861) [58] into one, modern, 3 million square foot facility. CHUM's private partners, including its energy provider, took on the risk of development and operations, which provided better security to the public partner. [59]

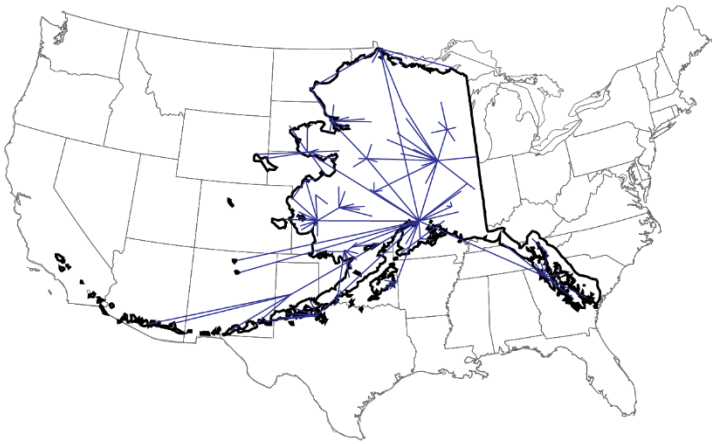
VA has recognized that partnering with private entities can increase the speed and efficiency of building medical facilities. In 2016, a pilot project allowed VA to accept real property donations from private entities, through the CHIP-IN Act, with the intention of

accelerating construction and facility improvement projects. Despite challenges across VA in identifying private entity donors, funds were recently approved for VA's first hospital built through the pilot program, located in Tulsa, Oklahoma. The hospital, a collaboration between the Eastern Oklahoma VA Health Care System and VA Rocky Mountain Network, will convert existing medical buildings on the Oklahoma State University campus for VA use. Federal funding will cover $120 million in project costs, while $10 million will come from donations. [60]

Alaska Consortium

Alaska is, by far, the largest and most sparsely populated state in the U.S. With 665,384 square miles, it has an average of 1.2 people per square mile. Across the state, there are just 29 cities with populations greater than 1,000 residents. [61] In such an expansive landscape, making health care accessible can be a major challenge.

Figure 16: *The Alaska Native Health Care System Referral Pattern Same Scale Comparison*



Source: Alaska Community Health Aide Program. 2021.

Alaska is also home to over 100 tribal organizations, and 24% of the state's population are AI/AN. [62] To maximize resources and reach small communities across the state, dozens of tribal organizations formed a consortium to connect providers, patients, and health care resources. The Alaska Tribal Health System (ATHS) is made up of 37 THOs that agree to manage health care facilities under the IHS. [63] Regional tribal consortiums across the state maintain an agreement with the Alaska Native Tribal Health Consortium (ANTHC), the state tribal health consortium, to refer patients to the Anchorage Native Medical Center (ANMC) for specialty care. [62] In addition to the Tribal sharing agreements, the arrangement was enabled through Federal legislation and funding: the Indian Self-Determination and Education Assistance Act (ISDEAA) (Public Law 93–638) that allowed tribes to control Federal Indian programs, including health care systems, [64] and Federal funding to renovate the Anchorage Native Medical Center. [65]

The Community Health Aide Program (CHAP), operated under the ATHS, provides care to remote Alaskan communities. [42] CHAP is a multidisciplinary system of mid-level behavioral, community, and dental health professionals working alongside licensed providers to offer patients increased access to quality care in rural Alaskan areas. [66] All health aides working in the CHAP program are required by Federal law to have IHS certification to provide health care services. CHAP teams are comprised of trained tribal members who are culturally sensitive to community members and follow a reference

manual that guides diagnosis and treatment, as well as procedures on how to access an expanded system of care if needed. The programs rely on telehealth connectivity and support from local regional THOs where one to three providers actively manage phone calls from the CHAPs. CHAPs serve in Village Based Clinics. Some Village Based Clinics have midlevel providers, such as in the Nome region, while most Village Based Clinics only have CHAPS and minimal support staff. The program also increases access by having basic health care delivered locally. “The use of paraprofessional health care workers, like community health aides, is a proven strategy for increasing access to much-needed health services and improving the quality of those services in Indian Country, as well as other rural and frontier areas.” [67]

The Alaska CHAP program is expanding nationally, and the rollout will follow Alaska’s model. [68] While not all parts of the country have a heavy tribal presence, there are locations in the southwest and mid-west that do. This model of connecting like-beneficiaries could also be leveraged for other populations.

Faced with the largest and most sparsely populated geography in the U.S, Alaskan organizations have demonstrated an innovative approach to reaching small, highly rural communities. This collaborative and locally led initiative to improving health care access may be a model worth replicating in other expansive rural communities.

Technology Innovations

For remote communities or for hard-to-hire skillsets, leveraging centralized resources through telehealth models proves to be a valuable solution.

Tele-Intensive Care Units

Hospitals with intensive care units (ICUs) are often unable to adequately staff their ICUs due to a limited number of intensivists, or critical care specialists. Hospitals are also faced with the challenge and cost of recruiting and retaining them, especially in rural areas. Only 47% of ICUs in the US are staffed by intensivists at least eight hours a day, seven days a week. [69] For ICUs without adequate intensivist staffing, tele-ICUs allow specialists to communicate with bedside staff remotely. Tele-ICUs are a supplement to onsite clinical care teams. Remote specialists communicate with the onsite teams to monitor treatment and can exchange health information electronically in real time. Often these remote specialists are in a central hub with other specialists and are communicating with several sites. In this model, rural patients have quicker access to intensive care, as tele-ICUs allow intensivists to co-manage care with the local team, avoiding the need to triage to a better-resourced facility. Having a centralized, remote hub also results in lower cost to the facility and better utilization of space and promotes standardization and higher quality of care.[53]

Tele-ICUs (eICUs) are one of VHA’s enterprise-wide initiatives in specialty care. Currently, VA operates two clinical operations centers, and the program has almost 650 active ICU bed licenses in 38 VAMCs. Each hub can monitor and advise 50 to 500

remote ICU beds across multiple facilities. About one quarter of VA ICU beds have access to tele-ICU services.[53]

Mercy Virtual

Similar to VA's eICU program, Mercy Health System (Mercy) opened Mercy Virtual, a 125,000 square foot virtual care center in 2015 in Chesterfield, Missouri, about 20 miles from St. Louis, with a staff of 600 doctors and related clinicians. Mercy Virtual Care Center includes an eICU, which connects with 30 ICUs in seven states while supporting tele-stroke, radiology, and pathology services. They use telehealth, electronic medical records and data analytics to diagnose patients and deliver care. [70] The facility also houses primary care and home health, care management, on-call nursing and e-pharmacy as support services, as well as a training venue for new staff and a research incubator for new care models. [71]

Mercy Virtual clinicians support and monitor care for more than 10,000 patients daily.[42] Among other specialties, Mercy also provides home monitoring, a telehealth program for emergency rooms treating stroke victims without a traditional neurologist on call, and a nurse-on-call department that via phone, e-mail and text answers more than 285,000 patient questions annually.

Mercy Virtual helped its parent health system save $9.2 million annually by using technology to standardize communication and terminology throughout its facilities and reduce waste of expensive surgical supplies.[42] Mercy reports that they were able to send about 1,300 patients home in 2018 who would have died in the hospital were it not for the health system's telehealth services. [72] With the elimination of an estimated 127,000 bed days of care, Mercy will save roughly $77 million in a program that costs about $15 million. [73] Mercy Virtual's virtual ICU program, when integrated with bedside care, has led to a 35% reduction in mortality rates and a 30% reduction in time spent in the ICU compared to predicted length of stay. [74]

Mississippi Statewide Telehealth

The success of the University of Mississippi Medical Center's Center for Telehealth is an example of the effective use of telehealth in serving rural and underserved communities. Mississippi had the largest physician shortage of any state between 2008 to 2018, [75] which helped set the stage for Mississippi's statewide approach to telemedicine. In 2019, Mississippi was ranked 50th in the United Health Foundation's state rankings, where the state has ranked within the bottom states for years. [76] The state had the worst physician-to-resident ratio in the U.S, with one primary care doctor per every 1,889 residents in 2020. [77] Residents in 53 of the state's 82 counties live more than 40-minutes away from specialty care. [78]

The University of Mississippi Medical Center (UMMC) is the only academic medical center in the state and is recognized as a virtual health care innovator for launching the Center for Telehealth in 2013. UMMC received HRSA's top award for programs at public academic medical centers, the HRSA Telehealth Center of Excellence, and

serves as a national clearinghouse for telehealth research and resources. [79] UMMC's Telehealth Center offers remote patient monitoring and a 24/7 Telehealth call center, as well as a wide range of specialty care ranging from dementia and Alzheimer's care, endocrinology, pulmonology, to radiology, and trauma.[47, 80] With a network of partners to fill health care gaps around the state, including clinics, hospitals, schools, businesses, and prison health care providers, they had a total of 176 sites in 2015 linked to UMMC. [81] UMMC purchases and manages equipment, provides support and maintenance, and has staff on call 24-hours a day. Partner organizations only pay for the services they need. [82] As of January 2020, UMMC reported more than 500,000 patient interactions, including 37,000 uniques.[50] In 2018, leadership at UMMC reported that internal research showed that virtual visits were successful in resolving more than 80% of health conditions.[50]

State legislation in 2012 that required insurance companies in the state to reimburse for telehealth at the same rate as in-person care is a factor that enabled Mississippi's success with telemedicine. The state legislature later expanded coverage for telehealth in the home.[52]

4. Rural Planning Framework

4.1 Rural Planning Priorities

This planning strategy was developed following two key assumptions:

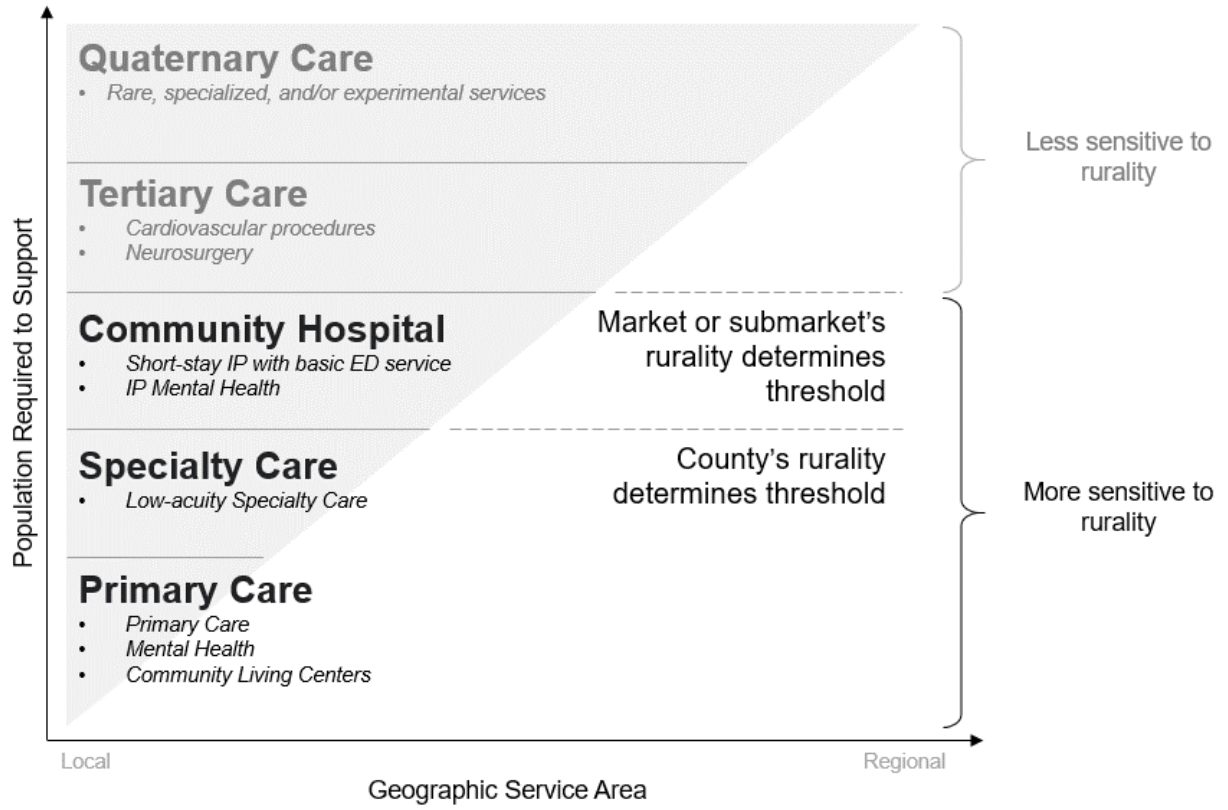
1. VA primary care is an enrollee's front door to the VA integrated network; therefore, ensuring enrollees have access to primary care services is a priority, and

2. Rural health care planning requires designing care delivery solutions that enhance the sustainability of the community's health care market. Supporting sustainable rural health care markets is a priority.

4.2 Geographic Service Areas

Tertiary, quaternary, and other highly specialized services are typically established in urban areas that have the population and provider resources to support them. Therefore, not all services were considered for separate urban and rural planning guidelines. National Planning Strategies for Blind Rehabilitation, SCI/D, and RRTP services fall into this category. More commonly utilized services such as primary care, low-acuity specialty care, urgent care, and community living centers, which serve smaller geographic areas and have shorter drivetime expectations, should consider rurality when planning for service delivery to different geographies.

As such, the Rural Health National Planning Strategy developed unique rural planning guidelines for two essential services to rural communities – primary care (including outpatient mental health) and basic short-stay emergency care services by way of a micro hospital. These are services that are expected at a local community level. Urban and rural planning guidelines for secondary care, inpatient mental health, and locally provided long-term care services are provided through separate respective national planning strategies.



Primary Care is a local-level service, one Veterans and the general population alike expect and should have access to within their immediate communities. VA uses a 30-minute drive time expectation for primary care services regardless of rurality. Given this, when planning for primary care services, the rurality of the existing or proposed point of care's county should determine the use of an urban or rural threshold.

Like market rurality, the county's rurality is defined by where most enrollees live: rural counties have more than 50% of their enrollees living in rural areas, and urban counties have 50% or more of their enrollees in urban areas.

A community hospital with basic emergency care and inpatient medicine services is expected to serve a larger geographic area than a primary care provider but is still needed at a local level to safeguard communities. VA uses a 60-minute drive time expectation for inpatient services. When planning for inpatient medicine services, the market or submarket's rurality should determine the use of a corresponding urban or rural threshold: A rural market may leverage the rural planning guidelines, or a rural submarket within an urban market. See Appendix H for an urban and rural threshold decision tool.

4.3 Planning Guidelines

Planning guidelines and thresholds seek to inform the market assessment process. The rationale for establishing VA planning guidelines and thresholds is rooted in the belief that where a VA service falls below the identified measure, quality, patient safety, or operational efficiency may be compromised. Therefore, a service must be carefully examined to ensure that Veteran needs are appropriately met. Planning guidelines and thresholds focus on a range of access, demand, staffing, quality, and facilities/ environment of care considerations and are meant to help identify optimal care delivery solutions. The guidelines and thresholds developed are not meant as standalone decision criteria to be used to make specific recommendations.

When conducting the market assessments, the opportunities developed were standardized across a range of move (or strategic task) types. Those developed included major moves as well as opportunities defined to be addressed during the ordinary course of business. Major moves represent the platform which will be vetted with senior VA leadership, with the VHA Under Secretary of Health, the Secretary of VA, the Asset and Infrastructure Review (AIR) Commission, and ultimately with Congress.

Planning guidelines derived from these efforts have been designed to assist in the standardization of major market moves and include the following:[*]

- **Open** – Establish a new site or program in an area with no current [insert program name] services
- **Maintain:**
    - **Maintain** – no major move is recommended
    - **Resize** – maintain services at the current site and size appropriately to accommodate projected demand
    - **Relocate Program** – maintain services within the same geographic service area but relocate to another VA site
    - **Relocate Facility** – maintain services and relocate the site within the same county to better place services closer to where Veterans live or to a site that can better fit services
    - **Modernize Facility** – update environment of care by improving or adding new building systems without changing the function of the existing space
    - **Replace Facility** – applicable for standalone programs – maintain services within the same area in a new facility due to the current facility's inability to modernize efficiently
- **Partner –** create a partnership where VA providers deliver care in coordination with a partner or where VA transitions care to a partner
    - **Partner (VA Delivered)** – a partnership in which VA providers deliver care to Veterans in coordination with a partner, such as through a VA hospital within a hospital (HwH) on a partner hospital campus, credentialing VA providers

[*] All National Planning Strategy service planning guidelines may not include all major move types.

within a partner facility, or establishing a VA point of care within a partner space
- **Partner (CCN/AA/Federal)** – transition care from a VA site and from VA providers to the Community Care Network, an Academic Affiliate, or to Federal providers and facilities; VA provides care coordination but does not deliver clinical care

In addition to the above moves, the rural short-stay micro hospital planning guidelines includes a VA- Fourth Mission Micro Hospital (P3 / Joint Venture (JV)) move, which indicates a partnership between two or more entities, that may result in a combined, single organization; for example, the Lovell Federal Health Care Center in North Chicago, Illinois. This move allows VA to deliver on its Fourth Mission to ensure continued service to Veterans and to address the MISSION Act's requirement to "consider the unique ability of the Government to retain a presence in an area otherwise devoid of commercial health care providers or from which such providers are at risk of leaving."

Planning Guidelines Table

Primary Care and Mental Health Services

The below table outlines the planning guidelines by move. The details of the planning guideline methodology and rationale are described after the tables. FY 2027 is noted as the planning year; for future planning efforts (post-MAHSO), replace FY 2027 with the most current 10-year projection model.

MAHSO Planning Guidelines and Thresholds	
Service	Primary Care and Mental Health Services
Geography	Local level
Prerequisites	Site in question is in a rural county

Open		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	**Rural county**: • ≥2,500 FY27 overlapping enrollees within 30 minutes of proposed location	Enrollee guideline driven by a 95% confidence enrollee-to-user conversion rate equating 2,500 rural enrollees to 1,800 users (a two NP/PA PACT).

Open		
Planning Domain	**Planning Guideline**	**Rationale**
Supply	• No VA points of care within 30 minutes of proposed location. • No essential hospitals within 30 minutes of proposed location to partner/co-locate with (lease space), and, • No DoD, IHS, or AA locations within 30 minutes of proposed location to partner/co-locate with (lease space)	• Partnering supports existing rural resources while delivering VA-provided care and aids in sustainability of community resources. Ancillary services (imaging, laboratory, and pharmacy) may be leveraged. • Lack of sustainable partners could cause VA to consider opening their own site of care. • Essential hospitals as defined by the Rural Hospital Sustainability Index (See Appendix I).
Access	• Proposed location is in an enrollee-dense area (relative to surrounding counties) with ability to capture 2,500 enrollees within a 30-minute drive time	• VA's current access standard is a 30-minute average drive time for primary care, mental health, and non-institutional long-term care services.
Quality	• N/A for a net new location	• New locations will not have historical patient satisfaction nor SAIL data solely attributed to the enrollees within the new geography.
Other	N/A	

Maintain, Resize, or Relocate		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	**Rural county**: • ≥2,500 FY 2027 overlapping enrollees within 30 minutes of existing location, or • Location had ≥1,800 uniques in FY 2018	• Enrollee guideline driven by a 95% confidence enrollee-to-user conversion rate equating 2,500 rural enrollees to 1,800 users (a two NP/PA PACT). • Second guideline of ≥1,800 FY 2018 uniques is an alternative method for assessing for a minimum two NP/PA PACT that is not based on drive time, as drive times vary in rural areas.

Maintain, Resize, or Relocate		
Planning Domain	**Planning Guideline**	**Rationale**
Supply	• Current site is in an enrollee-dense location (relative to surrounding counties), supports VA's ability to deliver modern health care, and lease renewal options or a new lease is available (when applicable). • No essential hospitals within 30 minutes of proposed location to partner/co-locate with (lease space), and • No DoD, IHS, or AA locations within 30 minutes of proposed location to partner/co-locate with (lease space)	• Partnering supports existing rural resources while delivering VA-provided care and aids in sustainability of community resources. Ancillary services (imaging, laboratory, and pharmacy) may be leveraged.
Access	• Location is in an enrollee-dense area (relative to surrounding counties) with ability to capture 2,500 enrollees within a 30-minute drive time	• VA's current access standard is a 30-minute average drive time for primary care, mental health, and non-institutional long-term care services.
Quality	N/A	• All sites to work towards improvement following the Strategic (Analytics for Improvement and Learning (SAIL) program

Maintain, Resize, or Relocate		
Planning Domain	**Planning Guideline**	**Rationale**

Other	**Resize**
	• The projected demand meets the Maintain guidelines, however, the existing space's projected occupancy is less than 50% or is more than 100% and resizing in place (either decreasing or expanding) is a more favorable option than relocating (for accessibility or financially)
	
	Relocate
	• The projected demand meets the Maintain guideline, however, another location would improve access, be a more efficient use of VA assets (consolidation), or would better support the sustainability of the rural community:
	  ○ There is a VA point of care within 30 minutes of existing location or within the same county, or,
	  ○ An essential hospital within 30 minutes of existing location to partner/co-locate with (lease space), or, a DoD, IHS, or AA location within 30 minutes of location to partner/co-locate with (lease space)
		Resize
		• The current site is unable to accommodate projected demand efficiently. Major renovations to follow the VA PACT Space Module Design Guide when possible.
		
		Relocate
		• Current site is less favorable for either access, environment of care, or efficient use of VA resources (financially) than another viable option.
		• Supporting existing rural resources while delivering VA-provided care provides financial or facilities support to partner and aids in sustainability of community resources. Ancillary services (imaging, laboratory, and pharmacy) may be leveraged.

Partner – AA / Federal / CCN (Buy)		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	**Rural county**: • < 2,500 FY 2027 overlapping enrollees within 30 minutes of location in question, and location had <1,800 uniques in FY 2018	• Enrollee guideline driven by a 95% confidence enrollee-to-user conversion rate equating 2,500 rural enrollees to 1,800 users (a two NP/PA PACT). • Second guideline of 1,800 FY 2018 uniques is an alternative method for assessing for a minimum two NP/PA PACT that is not based on drive time, as drive times vary in rural areas.

Partner – AA / Federal / CCN (Buy)		
Planning Domain	**Planning Guideline**	**Rationale**
Supply	• An essential hospital within 30 minutes of existing location, or • A DoD, IHS, or AA location within 30 minutes of existing location, or • CCN capacity: VA projected demand can be absorbed by CCN for PC and MH within 30 minutes without exceeding 90% of total CCN capacity, or • Potential-CCN capacity: VA projected demand can be absorbed by potential-CCN for PC and MH within 30 minutes without exceeding 90% of total potential-CCN capacity When assessing CCN and potential CCN partners, prioritize sending volume to FQHC and RHCs	• If VA projected FY 2027 encounters can be added to the CCN without exceeding 90% of total CCN capacity, then the network is deemed adequate. • CCN and potential CCN will assess all CMS-reimbursed providers, including FQHCs and RHCs.
Access	• Locations are within 60 minutes of existing site	• VA's CCN current access standards are 45-minute (rural), or 60-minute (highly rural) average drive time for primary care, mental health, and non-institutional long-term care services. MAHSO data does not differentiate between rural and highly rural, therefore, the most lenient (highly rural, 60-minute drive time) is used for rural.
Quality	• Providers are vetted by CCN TPA prior to entering network	• Leverage existing VA Partner quality criteria.
Other	N/A	

Rural Micro Hospital, Short-Stay Inpatient Medicine Services

MAHSO Planning Guidelines and Thresholds	
Service	Rural Micro Hospital, Short-stay Inpatient Medicine
Geography	Market or submarket-level service
Prerequisites	Site in question is in a rural market or a rural submarket.

Open		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	N/A	
Supply	See *Maintain/Relocate, Partner-VA*, and *Partner-VA (P3/JV)* moves	• VA has the opportunity to serve rural Veterans and deliver on the Fourth Mission to ensure continued service to Veterans, as well as to support local emergency management by ensuring future care delivery solutions can be supported at a level that does not jeopardize the sustainability of the community's health care market. • Additionally, the MISSION Act charges VA to "consider the unique ability of the Federal Government to retain a presence in an area otherwise devoid of commercial health care providers or from which such providers are at risk of leaving." • It is not recommended to open VA-only micro hospitals in rural communities that would benefit most through partnership arrangements that serve and stabilize the communities in which rural Veterans live. Additionally, partnerships increase the likelihood of higher volumes and therefore more stable, safer practices.
Access	N/A	
Quality	N/A	
Other	N/A	

Maintain Relocate Only		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	**Relocate** • FY 2027 IP Medicine ADC is ≥6 and ≤19	• A typical commercial micro hospital has between eight and 10 beds. Assuming an 80% occupancy, an ADC of six equates to eight beds (7.5 beds, rounded up). • The maximum threshold of 19 was informed by the VA-only IP Med/Surg threshold of >20 ADC, or 25 beds at an 80% occupancy. The 25 bed minimum follows CMS CAH requirements.
Supply	• Site has no ongoing recruitment and retention challenges for IP Medicine clinical staffing requirements, nor 24/7 ancillary services staffing challenges, and • There is a VAMC within 60 minutes to consolidate services with	• Consolidating increases the likelihood of higher volumes and therefore more stable, safer practices, and is also a more efficient use of VA assets.
Access	• Consolidate to location in an enrollee-dense area with ability to capture the most non-overlapping enrollees within a 60-minute drive time	• VA's current access standard is a 60-minute average drive time for secondary services.
Quality	• FY 2018 Q3 Acute care Standardized Mortality Ratio[†] (SMR) was ≤ 0.822 and has improved or remained consistent between FY 2016 – FY 2018	• Per CMS, mortality is one of, if not the most, important outcome measure for a hospital, and especially for emergency care services. 83 VA SAIL FY 2018 Q3 Median for SMR was 0.822.
Other	• Main campus building not to be older than 40 years (for MAHSO, should not be built before 1980)	• 40 years is acknowledged to be the average useful life of a hospital building per American Hospital Association. Older facilities are more challenging to modernize and inefficient operationally.

[†] SMR Metric Definition: Actual deaths within 30 days of acute care admission/expected deaths based on mortality risk, reference range = 1.0. Example: 1.2 means 20% more deaths than expected based on risk of patients.

Partner - VA (HwH)		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	• **Demand-Driven HwH:** Meets demand of FY 2027 IP Medicine ADC is ≥6 and ≤19 • **Quality-Driven HwH:** FY 2027 IP Medicine ADC is <6 and but there are no quality options (CMS 3+ Stars) within 60 minutes of the location	• A typical commercial micro hospital has between eight and 10 beds. Assuming an 80% occupancy, an ADC of six equates to eight beds (7.5 beds, rounded up). • The maximum threshold of 19 was informed by the VA-only IP Med/Surg threshold of >20 ADC, or 25 beds at an 80% occupancy. The 25-bed minimum follows CMS CAH requirements.
Supply	Site has no ongoing recruitment and retention challenges for IP Medicine clinical staffing requirements, nor 24/7 ancillary services staffing challenges **For a Demand-Driven HwH:** • No VAMC within 60 minutes to consolidate services with and, • An essential hospital option within 60 minutes of proposed location to partner/co-locate with (HwH), or, • A DoD, IHS, or AA location option within 60 minutes of proposed location to partner/co-locate with (HwH), or, • A hospital within 60 minutes of proposed location to partner/co-locate with (HwH) **For a Quality-Driven HwH:** • VA's projected demand cannot be absorbed within quality hospitals' (CMS 3+ Stars) within 60 minutes of the location without exceeding 90% of total CCN capacity, and, there is at least one hospital within 60 minutes of the location	• **Demand-Driven HwH**: Prioritizes partnerships that serve the most community members to solidify health care resources within rural areas. • Quality-Driven HwH: Prioritizes maintaining VA-provided care when there are no quality options in the community. • If VA projected FY 2027 ADC can be added to the community without exceeding 90% of total CCN capacity, then the network is deemed adequate. • CCN and potential CCN will assess all CMS-reimbursed locations, including CAHs.
Access	• Consolidate to location in an enrollee-dense area with ability to capture the most non-overlapping enrollees within a 60-minute drive time.	• VA's current access standard is a 60-minute average drive time for secondary services.

Partner - VA (HwH)		
Planning Domain	**Planning Guideline**	**Rationale**
Quality	• FY 2018 Q3 Acute care Standardized Mortality Ratio (SMR) is ≤ 0.822	• Per CMS, mortality is one of, if not the most, important outcome measure for a hospital, and especially for emergency care services. 83 VA SAIL FY 2018 Q3 Median for SMR was 0.822.
Other	• Main campus building not to be older than 40 years (for MAHSO, should not be built before 1980).	• 40 years is acknowledged to be the average useful life of a hospital building per American Hospital Association. Older facilities are challenging to modernize and inefficient operationally.

Partner - Fourth Mission Micro Hospital (P3, JV)		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	• **Demand-Driven P3 JV/HwH:** Meets demand of FY 2027 IP Medicine ADC is ≥6 and ≤19 • **Quality-Driven P3 JV/HwH:** FY 2027 IP Medicine ADC is <6 and but there are no other options within 60 minutes of the location	• A typical commercial micro hospital has between eight and 10 beds. Assuming an 80% occupancy, an ADC of six equates to eight beds (7.5 beds, rounded up). • The maximum threshold of 19 was informed by the VA-only IP Med/Surg threshold of >20 ADC, or 25 beds at an 80% occupancy. The 25-bed minimum follows CMS CAH requirements.

Partner - Fourth Mission Micro Hospital (P3, JV)		
Planning Domain	**Planning Guideline**	**Rationale**
Supply	Current site has persistent IP Medicine staffing recruitment and retention challenges **For a Demand-Driven P3 JV/HwH:** • No VAMC within 60 minutes to consolidate services with and, • No essential hospital option within 60 minutes of proposed location to partner/co-locate with (HwH), and, • No DoD, IHS, or AA location option within 60 minutes of proposed location to partner/co-locate with (HwH), and, • No hospital within 60 minutes of proposed location to partner/co-locate with (HwH) **For a Quality-Driven P3 JV/HwH:** • VA's projected demand cannot be absorbed within quality hospitals (CMS 3+ Stars) within 60 minutes of the location without exceeding 90% of total CCN capacity, and, there are no other hospitals within 60 minutes of the location	• Demand-Driven P3 JV/HwH: Prioritizes partnerships that serve the most amount of community members to solidify health care resources within rural areas. • Quality-Driven P3 JV/HwH: Prioritizes maintaining VA-provided care when there are no options in the community. • If VA projected FY 2027 ADC can be added to the community demand without exceeding 90% of total CCN capacity, then the network is deemed adequate. • CCN and potential CCN will assess all CMS-reimbursed locations, including CAHs.
Access	Consolidate to location in an enrollee-dense area with ability to capture the most non-overlapping enrollees within a 60-minute drive time.	• VA's current access standard is a 60-minute average drive time for secondary services.
Quality	FY 2018 Q3 Acute care Standardized Mortality Ratio (SMR) is ≤ 0.822	• Per CMS, mortality is one of, if not the most, important outcome measure for a hospital, and especially for emergency care services. 83 VA SAIL FY 2018 Q3 Median for SMR was 0.822.
Other	Main campus building not to be older than 40 years (for MAHSO, should not be built before 1980).	• 40 years is acknowledged to be the average useful life of a hospital building per American Hospital Association. Older facilities are challenging to modernize and inefficient operationally.

Partner – AA/ Federal / CCN (Buy)		
Planning Domain	**Planning Guideline**	**Rationale**
Demand	• FY 2027 IP Medicine ADC is <6	• A typical commercial micro hospital has between eight and 10 beds. Assuming an 80% occupancy, an ADC of 6 equates to eight beds (7.5 beds, rounded up).
Supply	• Prioritize sending demand to DoD, IHS, or AA locations within 60 minutes. If none, then, • VA's projected demand can be absorbed within quality hospitals (CMS 3+ Stars) within 100 minutes of the location without exceeding 90% of total CCN capacity	• If VA projected FY 2027 ADC can be added to the community without exceeding 90% of total CCN capacity, then the network is deemed adequate. • CCN and potential CCN will assess all CMS-reimbursed locations, including CAHs.
Access	• Locations are within 100 minutes of existing site	• VA's CCN current access standards are a 100-minute average drive time for secondary care for both rural and highly rural areas.
Quality	• 3+ CMS Star rating	• To support high-quality care to Veterans.
Other	N/A	

Assessing CCN Adequacy Summary

CCN Adequate	VA's projected demand can be absorbed by CCN for service in question within the given drive time without exceeding 90% of total CCN capacity
Potential CCN – Adequacy Attainable	VA's projected demand cannot be absorbed by CCN for service in question but can be absorbed by potential-CCN (CCN plus potential new CCN partners available in community) within the given drive time without exceeding 90% of total potential-CCN capacity
Inadequate (CCN + potential CCN)	VA's projected demand cannot be absorbed by the market (CCN and potential CCN) for the service in question within the given drive time without exceeding 90% of total market capacity

Primary Care and Mental Health Planning Guideline Rationale

Demand

The Primary Care and Mental Health demand planning guidelines were driven by a two-part analysis that was designed to understand the relationship between enrollees, users, and rurality in order to determine the number of enrollees needed to support at least two providers across varying rurality settings.

First, the relationship between enrollees and users by market rurality was studied. This was done by dividing FY 2018 market users by that market's FY 2018 total enrollees to calculate each market's enrollee-to-user rate. Then, all 96-market enrollee-to-user rates were studied against the corresponding market rurality percentage. The study found the more rural a market is, the more likely an enrollee is to use VA care services.

The 96 markets were divided by quartile by percent rural to study correlations between the rurality and the enrollee-to-user rate. For this correlation study, the quartiles were labeled as either:

- *Urban* (1st and 2nd quartiles),
- *Blend* (3rd quartile), or
- *Rural* (4th quartile).

Enrollee-to-user rate percentiles were calculated across the urban, blend, and rural subgroups. These rates can be used to calculate the required enrollee minimum at varying confidence levels (for example, 5%, 50%, or 95% confident) to support different types of two-provider Patient Aligned Care Teams (PACTs).

Market Rurality by Quartile	Market Percent Rural	Enrollee-to-User Rates (by percentile)		
		5th (95% confidence)	50th	95th
1st and 2nd Quartiles, "Urban"	≤ 39%	.56	.68	.78
3rd Quartile, "Blend"	39% < % Rural < 53%	.61	.71	.78
4th Quartile, "Rural"	≥ 53%	**.72**	.76	.84

PACT Team Requirement		95% Confidence of Enrollee Minimum Threshold		
		Urban	Blend	Rural
2 MDs	2,400	4,286	3,934	3,333
1MD and 1NP/PA	2,100	3,750	3,443	2,917
2 NP/PAs	1,800	3,214	2,951	2,500

The results for rural areas are:

- A 3,333-enrollee minimum to equate to 2,400 users to support two MD PACTs
- A 2,917-enrollee minimum to equate to 2,100 users to support a one MD and one Nurse Practitioner (NP) or Physician's Assistant (PA) PACT, and
- A 2,500-enrollee minimum to equate to 1,800 users to support two NP/PA PACTs. This enrollee minimum is used for the rural Open and Maintain move to support efficient VA-provided primary care services when feasible

Rural Primary Care and Mental Health location planning guidelines use the highest 95% confidence Enrollee-to-User conversion rate (0.72) from the rural quartile applied to the lowest PACT user requirement to establish the Open and Maintain enrollee minimum.

A point of care's county rurality classification was selected as the determining qualifier for rural planning guidelines, as a county reflects a primary care service area better than sector, submarket, or market. County sizes vary greatly across the country and may not perfectly reflect drive time expectations to primary care services. The highly rural and frontier parts of the country tend to have larger counties. CMS's primary care drive time requirements reflect these differences through longer drive time standards (60 minutes for highly rural compared to 45 minutes for rural or 30 minutes for urban). Therefore, county is a fair geographical designation to use in most parts of the country.

Because drive times vary in rural areas, a utilization guideline is included in addition to a drive time guideline. This additional guideline was also included because providing primary care service is a planning priority, therefore assessing existing primary care programs warrants additional queries. The Maintain guideline of greater than or equal to 1,800 FY 2018 uniques is the second method of assessing a minimum demand to support two NP/PA PACTs. This guideline aims to maintain assets that may be in remote parts of the country but are still used by Veterans. Additionally, it supports the use of non-MD (NP and PAs) delivered care in rural areas, which tend to have provider shortages.

Supply

Rural community hospitals safeguard residents by providing preventative care, speciality care, and basic emergency care services, and are often the only provider of these services within the community. Across the country these locations are closing due to financial challenges leaving communities without access to basic services. For this reason, if a rural essential community hospital is in an enrollee-dense location, leasing clinic space within the hospital or on its campus is prioritized as the first supply option. This provides additional revenue to the essential hospital, aiding in the stabilization of its finances and supporting continued basic services to the community, including Veterans. Additionally, if the hospital is in the CCN for specialty care services, or the Veteran has

dual-coverage and can use other services on site, it is a convenient, Veteran-centric option for receiving care on one campus.

Federal locations do not serve the general public the way most community hospitals do, and therefore do not stabilized community health care resources to the same level community hospitals do. Therefore, leasing space for VA-provided care within DoD, IHS, and AA real estate is prioritized second when assessing options in favorable locations. If there are no essential community hospitals, leveraging existing DoD, IHS, or AA facilities is an efficient way of delivering VA-provided care.

When assessing for potential CCN additions, FQHCs and RHCs in enrollee-dense locations should be prioritized, as they support underserved populations and already meet Federal access requirements such as on-site staffing and providing basic laboratory services.

Access

Projected enrollees within a 30-minute or 60-minute drive time of an existing location can be assumed by multiplying the number of FY 2018 enrollees within the drive time of a facility by the 10-year growth rate of the county the location is located within. The access standard for primary care, mental health, and non-institutional long-term care services when provided at a VA site is a 30-minute average drive time. CCN access standards are a 30-minute drive time for urban areas, a 45-minute drive time for rural areas, or a 60-minute drive time for highly rural areas. MAHSO enrollee-level data does not differentiate between rural and highly rural areas. The CCN highly rural 60-minute drive time is used for rural CCN primary care and mental health adequacy planning, as it allows for a larger CCN geographic service area and, ideally, more options for Veterans.

Quality

There are no quality-specific planning metrics suggested for primary care and mental health services. It is assumed all VA primary care and mental health sites will be measured by the Strategic Analytics for Improvement and Learning (SAIL) program.

Other

There are no other planning metrics suggested to assess consistently, however, each market and location may have unique circumstances and drivers to consider. It is recommended that the planners work with local leadership to understand local needs and challenges in addition to using the planning guidelines.

Rural Micro Hospital Planning Guideline Rationale

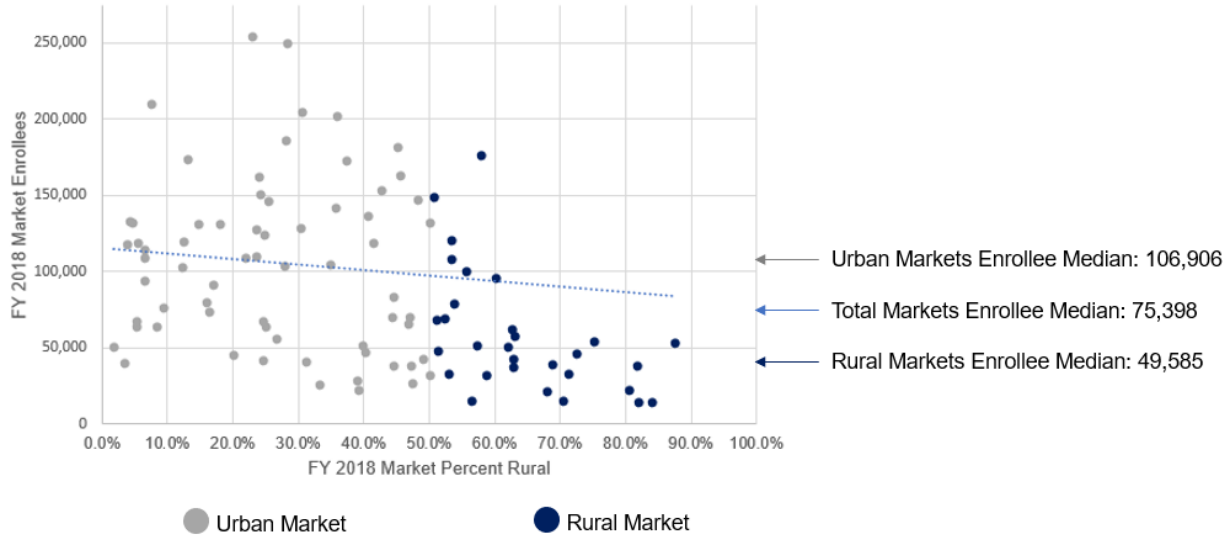
Demand

The Rural Micro Hospital with short-stay Inpatient Medicine demand planning guidelines were primarily influenced by the standard commercial micro hospital size. A typical commercial micro hospital has between eight and 10 beds. To define the minimum threshold, an 80% occupancy was assumed to define the guideline of six ADC, which equates to eight beds (7.5 beds, rounded up). The maximum threshold of 19 ADC was informed by the VA-only IP Med/Surg threshold of less than 20 ADC, or 25 beds at an 80% occupancy. The 25-bed minimum follows CMS CAH requirements.

The rurality of a submarket or market indicates where most Veterans are located and may also reflect the resources available in the geography. (Urban markets and submarkets typically include a large metropolitan area.) Additionally, compared to county and sector, a submarket or market more closely reflects the intended geographic service area for inpatient services. Hospitals tend to be in population centers, even in rural parts of the country. Using a hospital's county rurality to determine a rural versus urban threshold will result in 'urban' and may not accurately reflect surrounding rural service areas. Therefore, market and submarket are chosen to be the rural planning guideline qualifiers.

Rural markets tend to have fewer enrollees across larger geographies which is another factor for why the market rurality should determine volume-adjusted guidelines. Of the 96 markets, 30 are considered rural and half (15) had fewer than 50,000 enrollees in FY 2018.

Figure 17: *Market Enrollees and Market Percent Rural*



Markets with multiple submarkets are not common. Only 34 of the 96 markets, or 35%, have more than one submarket. Of those 34 markets, 26 are urban and eight are rural, therefore submarkets are primarily found in urban markets. Submarkets can be helpful in geographically large urban markets considering the classification of "urban" or "rural"

is driven by where most enrolees live. If a market has at least one large metropolitan area, it will likely classify the entire market as urban, regardless of geographical size. Rural submarkets in urban markets can help clarify rurality at a geographical level that is more suitable for estimating an inpatient service area. For example, VISN 7's Alabama Market spans the entire state of Alabama, which is a rural state from the land area perspective, however, the market is considered urban because of the substantial number of Veterans living in the Birmingham area (Birmingham is the largest city in Alabama). Fortunately, the Alabama Market is one of the 34 markets that has submarkets and has three: Birmingham, Central Alabama, and Tuscaloosa. Dividing the state in to three submarkets allows Birmingham to be planned as an urban service area, while Central Alabama and Tuscaloosa may be planned as rural, which more accurately represents their service areas. Other similar examples include VISN 7's Georgia Market – which also covers the entire state and is classified as an urban market due to the Atlanta population – and VISN 8's North Market, which spans from the eastern coastline of Jacksonville, Florida to the very rural Florida panhandle three hours west. A list of all the rural submarkets within urban markets is in Appendix D.

Supply

Micro hospital supply planning guidelines follow the same rationale as the primary care and mental health services supply guidelines. When assessing for CCN or potential CCN options, prioritizing essential hospitals and CAHs is included as they support underserved areas and are vital for keeping essential services in rural communities.

Through market assessment interviews, recruitment and retention challenges were reported. The staffing guideline to assess for IP Medicine clinical staff and 24/7 ancillary staffing stability is to help validate that if future investments are made for a service venue, the service can be delivered, and that the location will not go unused.

Access

The access standard for specialty care services when provided at a VA site is a 60-minute average drive time and the CCN access standards are a 60-minute drive time for urban areas and a 100-minute drive time for rural and highly rural areas.

Quality

For VA-provided care, the SMR guideline was included to help validate that if VA is to provide critical-access, low-level volumes of inpatient medicine care before assessing quality care in the community, the existing program's score should be no higher than the FY 2018 VA national average. (Lower scores indicated better performance.)
When assessing the community, the guideline to only assess hospitals with three or more CMS stars is to support developing high-quality care into the integrated network.

Other

Rural hospitals tend to be older, more expensive to maintain, and more challenging to modernize. The facilities guideline of favouring buildings less than 40 years of age intends to ensure future capital investments are made in modern, sustainable, efficient infrastructure. Forty years is acknowledged to be the average useful life of a hospital building per American Hospital Association.

5. Future Program Planning and MAHSO Application

5.1 Applying the Rural Health National Planning Strategy to VA Market Assessments

The VA MAHSO effort completed an initial assessment of VA markets, facilities, and service lines to produce recommendations for the design of high-performing integrated delivery networks. VA Leadership identified select service lines, studied during the market assessments, and rural health for development of a standard national strategy and approach to planning and maintaining programs. Rural Health was identified as an area requiring a set of national planning guidelines and thresholds that would be applicable for use in current (MAHSO) and future planning efforts.

The national planning guidelines will be used to ensure that the final market assessments apply standardized programmatic criteria across the nation, but with full consideration of the range of care archetypes that exist within VA. The guidelines will be useful to VA planners to inform future quadrennial market assessments and other planning exercises.

How will MAHSO apply the Rural Health National Planning Strategy?

The three-step process for revisiting MAHSO draft opportunities describes how opportunities will be reviewed and updated, if necessary:

Identify Phase 1-3 Rural Primary Care, Mental Health, and Inpatient Medicine opportunities

The scope of review includes primary care and mental health services at Community-Based Outpatient Clinics (CBOCs), Multi-Specialty CBOCs, Health Care Centers (HCCs), and VAMCs, and Inpatient Medicine opportunities. It will include assessing respective market data to discern whether new opportunities should be required.

Apply Rural Health National Planning Strategy Planning Guidelines

For each draft rural primary care and mental health opportunity (CBOC, MS CBOC, HCC, VAMC), and rural inpatient medicine opportunity, the planners will validate that all data was sourced according to the updated methods described in the Rural Health National Planning Strategy. Next, planning guidelines developed here (demand, access, and other applicable MISSION Act § 203 criterion) will be applied to identified opportunities or any new opportunities that should be developed.

Update/Create CBOC and Inpatient Medicine Opportunities

As needed, updates to existing market optimization or capital opportunities will be made. New opportunities may be created. Once draft opportunities are revised and ready for VA Leadership approval, they will be re-submitted to MAHSO Governance bodies.

Future Planning Recommendations to aid in Rural Health Care Delivery

Throughout the development of the Rural Health National Planning Strategy, areas for consideration for future planning efforts were identified. It is recommended that the following be considered for future market assessments to further support delivering care to rural Veterans.

Project Stakeholders

1. Include the Office of Connected Care in market planning through site visits or interviews with Telehealth Coordinators in parallel to planners' site visits and interviews.
2. Include the Office of Community Care in the market planning process.

Market Assessment Data

3. Classify markets, submarkets, and counties as urban or rural following the definitions developed in this national planning strategy.
4. In addition to calculating the percent of rural enrollees for counties and markets, provide it for submarkets as well.
5. Count 'highly rural' enrollees separately from 'rural' enrollees at the county level.
6. Map internet broadband availability in rural and highly rural areas to incorporate into rural health planning, particularly related to telehealth care delivery.
7. Map essential hospitals to inform partnerships, supporting sustainability in rural communities.
8. Include the Clinical Resource Hub facilities (hubs and spokes) relative to each market.

Policy

9. Re-consider rural 30- and 60-minute drive time expectations in rural and highly rural areas to more closely align with CMS guidelines and expectations among the general population.
10. Assess rural payment models, for example, global value-based payment models, when creating partnerships to account for the lower volume of services in rural areas and aid in suitability of community resources.

Conclusion

The Rural Health National Planning Strategy establishes an approach for considering rurality in health care planning and provides rural planning guidelines for essential community services – primary care (including outpatient mental health) and basic short-stay emergency care services in rural areas (rural micro hospitals). This strategy provides a more equitable approach to service planning for rural Veterans. These guidelines and thresholds will be used to ensure that capital planning is matched to Veteran demand and a consistent set of recommendations is established to inform and support the development of the National Realignment Strategy.

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Appendix A: Interviews

Office	Interviewee	Title/ Position	Date(s)
Office of Rural Health	Dr. Larry Mole Dr. Sheila Robinson	Acting Deputy Chief Officer, Public Health Deputy Director, Office of Rural Health	October 16, 2020
Office of Rural Health	Dr. Thomas Klobuchar Dr. Larry Mole	Executive Director, Office of Rural Health Acting Deputy Chief Officer, Public Health	October 30, 2020
Office of Connected Care	Dr. Neil Evans Dr. Kevin Galpin Dr. Nancy Wilck	Chief Office, Office of Connected Care Executive Director, Telehealth Services, Office of Connected Care Director of Digital Health Implementation Strategies	December 8, 2020
Office of Connected Care	Dr. Neil Evans Dr. Kevin Galpin Dr. Nancy Wilck	Chief Office, Office of Connected Care Executive Director, Telehealth Services, Office of Connected Care Director of Digital Health Implementation Strategies	January 12, 2021
Office of Connected Care	Dr. Neil Evans Dr. Kevin Galpin	Chief Office, Office of Connected Care Executive Director, Telehealth Services, Office of Connected Care	January 19, 2021
Secretary's Center for Strategic Partnerships	Deborah Lafer Scher Douglas Carmon Breanna Wilson Christina Hackerman	Executive Advisor to the Secretary Director Portfolio Manager Portfolio Manager	January 25, 2021

Appendix B: Acronyms

Abbreviation	Definition
AI/AN	American Indians and Alaska Natives
CAH	Critical Access Hospital
CCN	Community Care Network
CMS	Centers for Medicare and Medicaid Services
CSO	Chief Strategy Office
DDF	Data Discovery and Findings
DHA	Defense Health Agency
DoD	Department of Defense
FQHC	Federally Qualified Health Center
HPSA	Health Care Professional Shortage Areas
HRSA	Health Resources and Services Administration
HwH	Hospital within a hospital
IHS	Indian Health Services
JV	Joint Venture
MAHSO	Market Area Health System Optimization
MOA	Memorandum of Agreement
ORH	Office of Rural Health
PC	Primary Care (includes Mental Health)
RHC	Rural Health Clinic
SAIL	Strategic Analytics for Improvement and Learning
SC	Specialty Care
TPA	Third Party Administrator
VAMC	Veterans Affairs Medical Center
VHA	Veterans Health Administration
VA	Veterans Affairs

Appendix C: Urban and Rural Markets as Defined by Majority Rurality

The below ranks the 96 VHA markets by most rural (ranked #1) to least rural, or most urban (ranked #96) as defined by where the majority of market enrollees live.

Rank	Market	Percent Rural	FY 2018 Total Enrollees	Rurality Classification
1	(V12) Northern	88%	53,166	Rural
2	(V19) Sheridan	84%	14,408	Rural
3	(V02) Southern Tier	82%	14,563	Rural
4	(V23) Minnesota Central	82%	38,715	Rural
5	(V05) Clarksburg	81%	22,456	Rural
6	(V01) Far North	75%	54,640	Rural
7	(V19) Montana	72%	46,335	Rural
8	(V23) South Dakota East	71%	33,476	Rural
9	(V05) Beckley	70%	15,261	Rural
10	(V23) North Dakota	69%	39,508	Rural
11	(V23) South Dakota West	68%	21,147	Rural
12	(V23) Iowa East	63%	57,587	Rural
13	(V06) Northwest	63%	43,042	Rural
14	(V23) Iowa Central	63%	37,643	Rural
15	(V01) North	62%	62,436	Rural
16	(V19) Eastern Oklahoma	62%	51,103	Rural
17	(V16) Central	60%	96,150	Rural
18	(V22) Prescott	59%	32,216	Rural
19	(V15) West	58%	176,764	Rural
20	(V02) Central	57%	51,902	Rural
21	(V19) Grand Junction	56%	15,464	Rural
22	(V09) Northern	56%	100,150	Rural
23	(V10) Central Ohio	54%	79,048	Rural
24	(V10) MichErie	53%	108,693	Rural
25	(V16) Northern	53%	120,828	Rural
26	(V20) Alaska	53%	33,526	Rural
27	(V09) Western	52%	69,301	Rural
28	(V02) Eastern	51%	48,067	Rural
29	(V22) Albuquerque	51%	68,864	Rural
30	(V15) East	51%	149,107	Rural
31	(V05) Huntington	50%	32,305	Urban
32	(V09) Central	50%	132,677	Urban
33	(V05) Martinsburg	49%	42,895	Urban
34	(V04) Western	48%	147,168	Urban

Rank	Market	Percent Rural	FY 2018 Total Enrollees	Rurality Classification
35	(V17) Northwest Texas	47%	26,613	Urban
36	(V12) Central Illinois	47%	38,379	Urban
37	(V23) Nebraska	47%	70,038	Urban
38	(V09) Eastern	47%	65,512	Urban
39	(V07) Alabama	45%	163,346	Urban
40	(V06) Southeast	45%	182,188	Urban
41	(V20) Inland South Idaho	45%	38,599	Urban
42	(V19) Oklahoma City	44%	83,904	Urban
43	(V20) Inland North	44%	70,217	Urban
44	(V20) South Cascades	43%	153,987	Urban
45	(V23) Minnesota East	41%	118,911	Urban
46	(V10) Indiana	41%	136,357	Urban
47	(V21) Sierra Nevada	40%	46,966	Urban
48	(V21) Pacific Islands	40%	51,480	Urban
49	(V17) West Texas	39%	22,684	Urban
50	(V19) Cheyenne	39%	28,535	Urban
51	(V08) North	37%	172,652	Urban
52	(V07) South Carolina	36%	202,712	Urban
53	(V06) Southwest	36%	142,147	Urban
54	(V12) Central	35%	104,966	Urban
55	(V02) Finger Lakes	33%	26,271	Urban
56	(V02) Western	31%	40,794	Urban
57	(V16) Southern	30%	204,603	Urban
58	(V17) Central	30%	128,797	Urban
59	(V07) Georgia	28%	250,477	Urban
60	(V17) North Texas	28%	186,417	Urban
61	(V10) Western Ohio	28%	103,618	Urban
62	(V21) North Coast	27%	56,482	Urban
63	(V20) Western Washington	25%	146,786	Urban
64	(V22) Tucson	25%	64,439	Urban
65	(V10) Northeast Ohio	25%	123,901	Urban
66	(V19) Salt Lake City	25%	67,468	Urban
67	(V21) South Valley	25%	41,686	Urban
68	(V17) East Texas	24%	150,578	Urban
69	(V06) Northeast	24%	162,052	Urban
70	(V10) Eastern Michigan	24%	110,180	Urban
71	(V17) Southern	23%	128,268	Urban
72	(V04) Eastern	23%	254,768	Urban
73	(V21) North Valley	22%	108,917	Urban
74	(V17) Valley Coastal Bend	20%	45,457	Urban

Rank	Market	Percent Rural	FY 2018 Total Enrollees	Rurality Classification
75	(V22) Phoenix	18%	131,006	Urban
76	(V01) West	17%	91,262	Urban
77	(V21) South Coast	16%	73,973	Urban
78	(V05) Baltimore	16%	79,932	Urban
79	(V19) Denver	15%	131,508	Urban
80	(V12) Southern	13%	173,680	Urban
81	(V05) Washington	12%	119,635	Urban
82	(V22) Loma Linda	12%	103,182	Urban
83	(V21) Southern Nevada	9%	76,822	Urban
84	(V08) Puerto Rico Virgin Islands	8%	64,489	Urban
85	(V22) Greater Los Angeles	7%	210,524	Urban
86	(V08) Central	6%	108,846	Urban
87	(V02) VA New Jersey	6%	94,347	Urban
88	(V02) VA Metro New York	6%	114,845	Urban
89	(V08) Gulf	5%	119,316	Urban
90	(V08) Atlantic	5%	63,915	Urban
91	(V08) Miami	5%	67,839	Urban
92	(V01) East	5%	132,098	Urban
93	(V08) Orlando	4%	133,239	Urban
94	(V22) San Diego	4%	117,957	Urban
95	(V17) Southwest Texas	3%	40,196	Urban
96	(V02) VA Long Island	2%	51,159	Urban
	Grand Total		**8,732,533**	

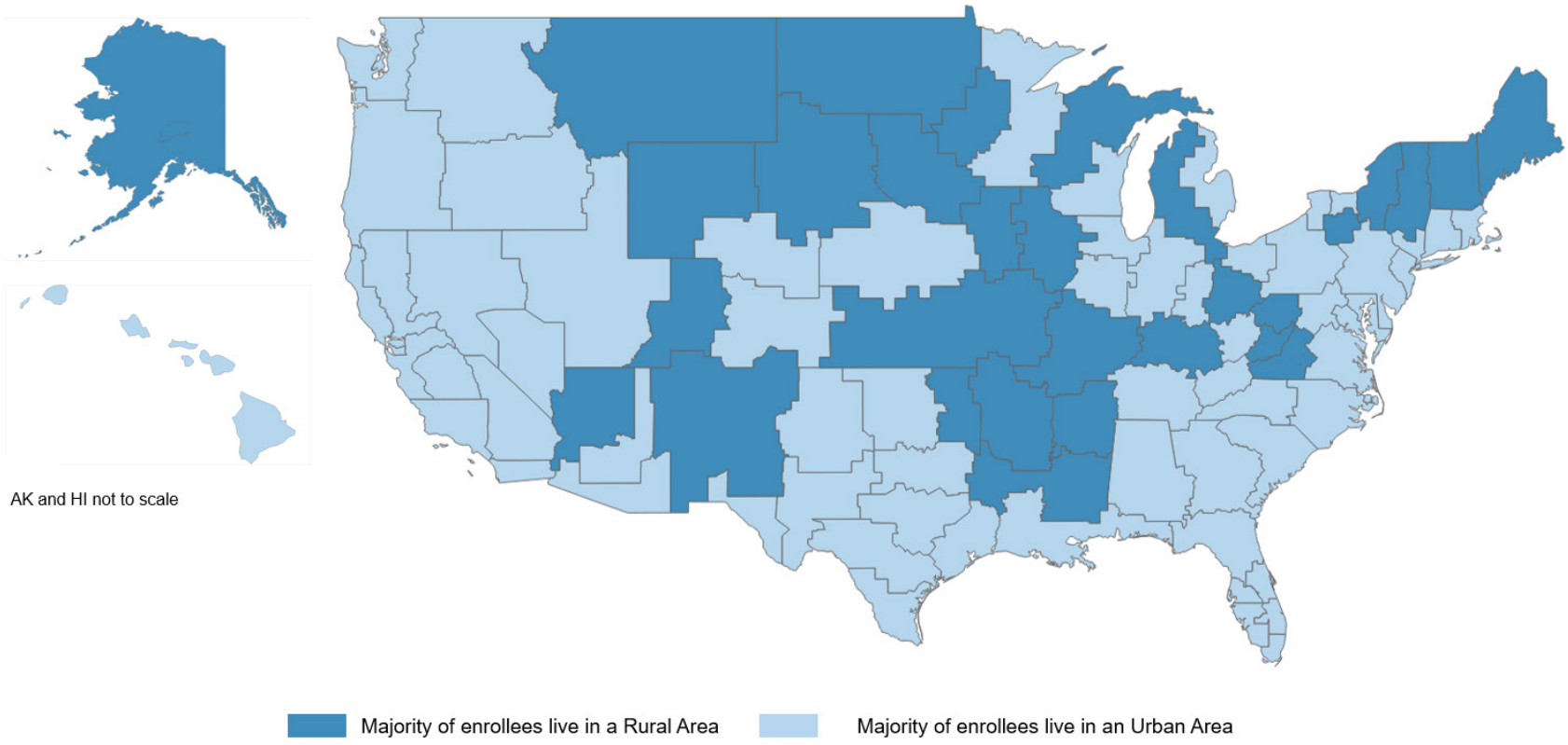
Appendix D: Urban Markets with Rural Submarkets

The below submarkets qualify for rural short-stay inpatient medicine planning guidelines.

Urban Market	Urban Market's Rural Submarket
(V02) Finger Lakes	V02 Finger Lakes Sub Canandaigua
(V07) Alabama	V07 Central Alabama
(V07) Alabama	V07 Tuscaloosa
(V07) Georgia	V07 Dublin
(V08) North	V08 North Sub West
(V09) Central	V09 Central East
(V10) Indiana	V10 Ind North
(V10) Eastern Michigan	V10 East Michigan Northeast
(V12) Central Illinois	V12 Central Illinois Sub Central
(V16) Southern	V16 Southern Sub Alexandria
(V17) North Texas	V17 North Texas Sub Smith
(V17) North Texas	V17 Other Counties
(V17) Northwest Texas	V17 Northwest Sub North
(V17) East Texas	V17 East Texas Sub West
(V17) East Texas	V17 East Texas Sub South
(V20) South Cascades	V20 South Cascades Sub 2
(V21) Sierra Nevada	V21 Sierra Nevada
(V21) North Valley	V21 Shasta Butte

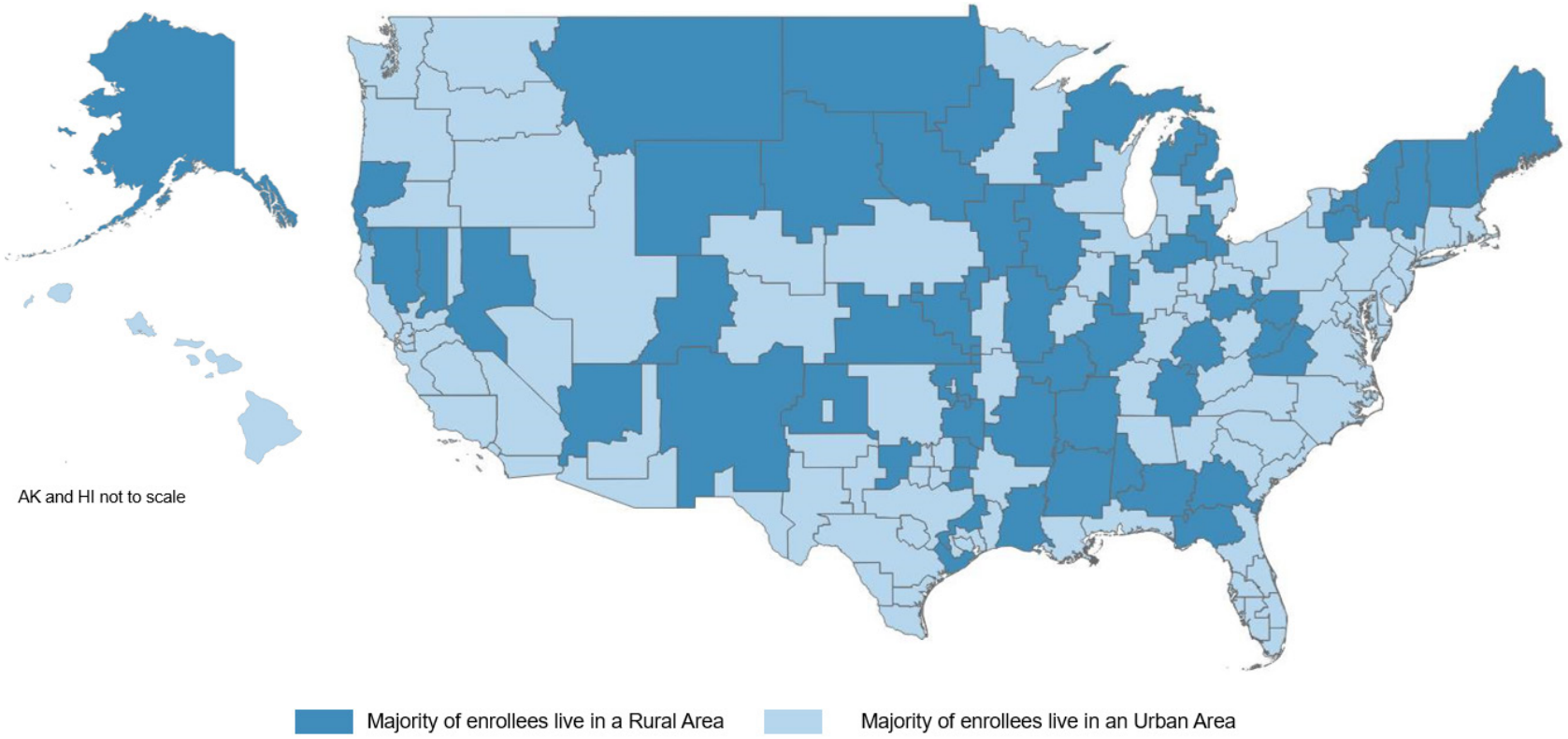
Appendix E: National-level VHA Market Rurality Map by Majority Rurality

There are 96 markets, 66 of which have most enrollees living in urban areas and 30 markets with the majority of enrollees living in rural areas.



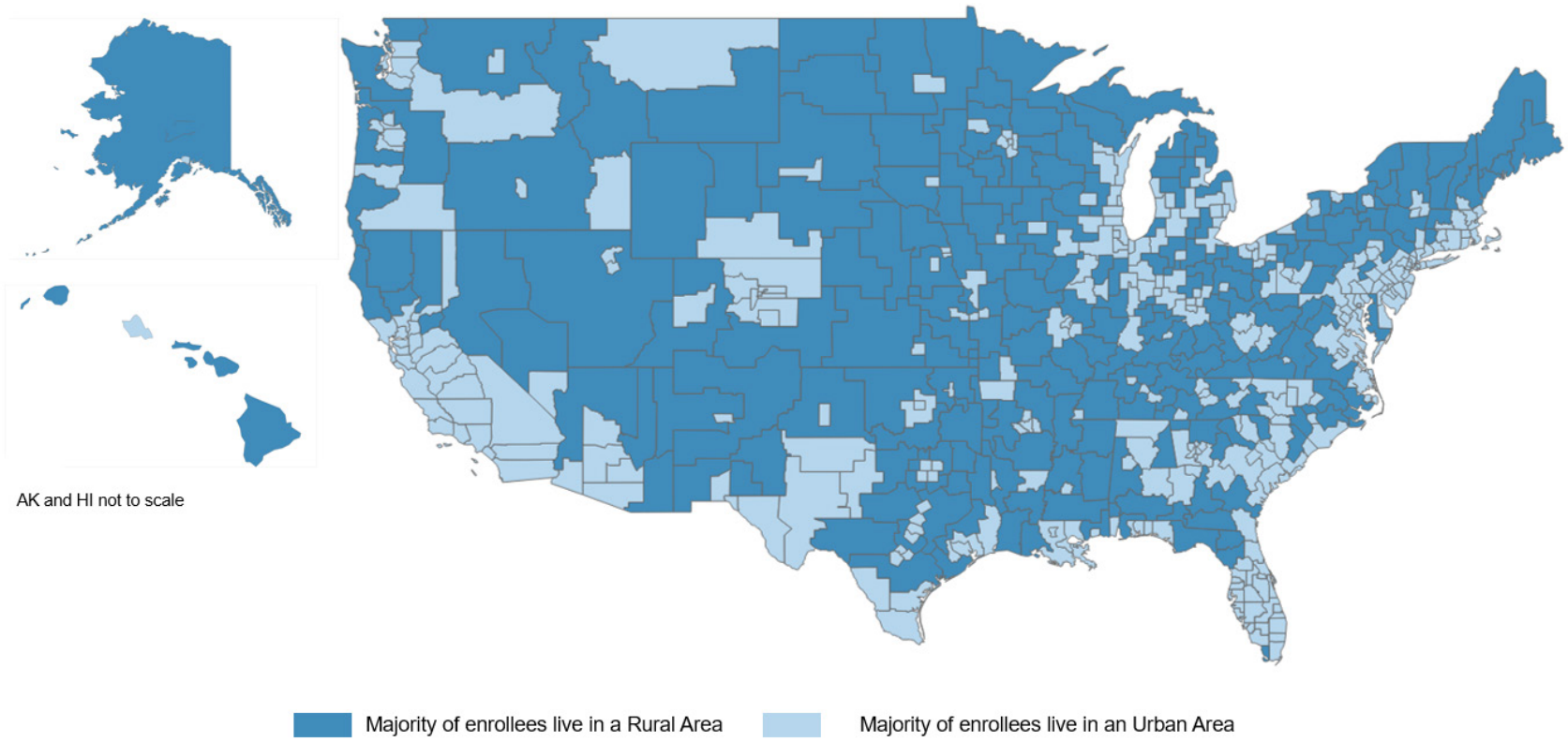
Appendix F: National-level VHA Submarket Rurality Map by Majority Rurality

Of the 96 markets, 34 have more than one submarket.
There are 153 submarkets, 96 of which have most enrollees living in urban areas and 57 submarkets with most enrollees living in rural areas.

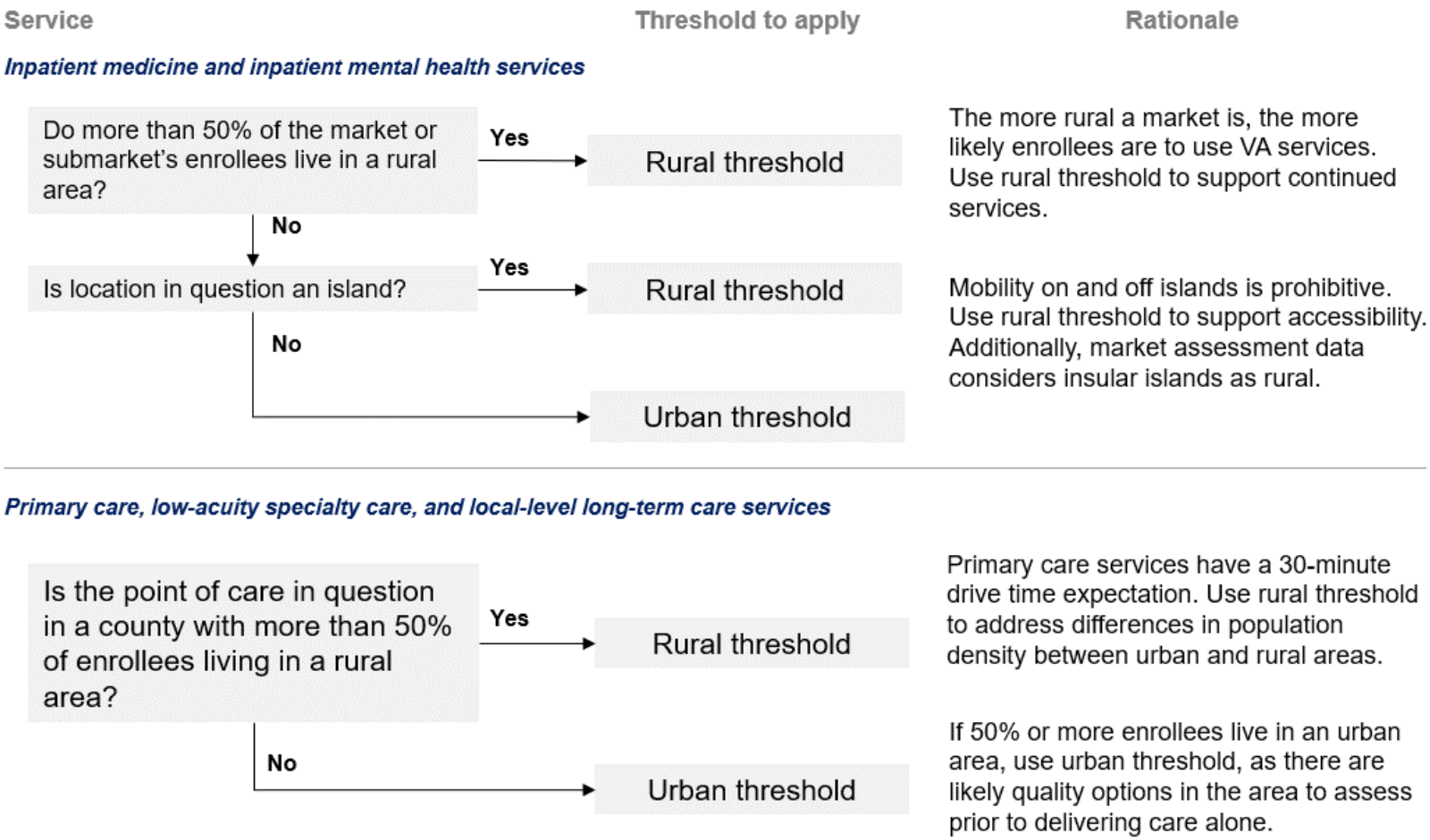


Appendix G: National-level VHA Sector Rurality Map by Majority Rurality

There are 567 sectors, 338 of which have most enrollees living in urban areas and 229 submarkets with most enrollees living in rural areas.



Appendix H: Urban or Rural Threshold Decision Tool



Appendix I: Rural Hospital Sustainability Index Methodology

Financial Risk and Community Essentiality[13]
(Based on an analysis of 1,430 rural hospitals nationwide)

Financial risk — Derived from a weighted analysis of the following hospital metrics tied to national percentiles and medians. Overall performance (as percentile) compared to all U.S. hospitals and calculated for each of these metrics

- Total operating margin performance over most recent two
- Current ratio (Current assets and liabilities)
- Days cash on hand
- Debt-to-capitalization ratio
- Inpatient census

Overall financial score is a weighted average of each metric. Hospitals that had an overall score of 33 or below were assigned to the high-risk category. Nationwide, 18% of hospitals had sufficiently poor financial performance to be rated at high-risk.

Community essentiality — Hospitals meeting all the following metrics are considered essential.

- Service to vulnerable populations: Combined proportion of Medicaid and charity care charges as percent of overall facility charges.
- Geographic isolation: Degree to which hospital represents the proportion of total beds within a 25-mile radius.
- Economic impact on community: Hospital employee-to-county population ratio
- The Centers for Disease Control and Prevention's social vulnerability index for the hospital's home county.

Overall percentile calculated for each metric. Overall financial score is weighted average of each metric. Nationwide, 19.8% of hospitals were rated most essential.