



MAHSO

MARKET AREA HEALTH SYSTEMS OPTIMIZATION

National Planning Strategy

Inpatient Medicine

September 2021



Table of Contents

Executive Summary	3
1. Inpatient Medicine Overview	9
1.1 Program Mission.....	9
1.2 Opportunity Statement.....	10
2. Current State Overview	11
2.1 Demographic and Programmatic Distribution Analysis	11
2.2 Current VA Program Review and Analysis	14
2.3 Commercial and other Federal Provider Trends.....	23
3. Leading Practices.....	41
3.1 Leading Practices Analysis.....	41
4. Service Planning Framework	48
4.1 Program Priorities.....	48
4.2 Geographic Service Area.....	48
4.3 Planning Guidelines.....	49
5. Future Program Planning	60
5.1 Applying the Inpatient Medicine National Planning Strategy to VA Market Assessments.....	60
5.2 Planning Steps	61
Appendix A: References.....	64
Appendix B: Interviews.....	74
Appendix C: Acronyms.....	77
Appendix D: VA Priority Groups	79



Executive Summary

The Department of Veterans Affairs (VA) Market Area Health Systems Optimization (MAHSO) effort developed 96 draft market assessments in the 18 VA Veterans 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 an Asset and Infrastructure Review (AIR) Commission Report 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 AIR Commission for consideration. The AIR Commission will submit its recommendations to the President for review and approval, prior to the recommendations going to Congress for review and approval.

This Inpatient Medicine National Planning Strategy establishes a consistent set of planning guidelines, which will help to develop the opportunities that are specific to Inpatient Medicine and Emergency Medicine. Using comprehensive VA data, the guidelines can facilitate increased alignment of Inpatient Medicine capacity and capabilities with the evolving needs of Veterans.

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 Inpatient Medicine National Planning Strategy in consultation with the VHA Hospital Medicine Program, Emergency Medicine Program, and the Office of Nursing Services.

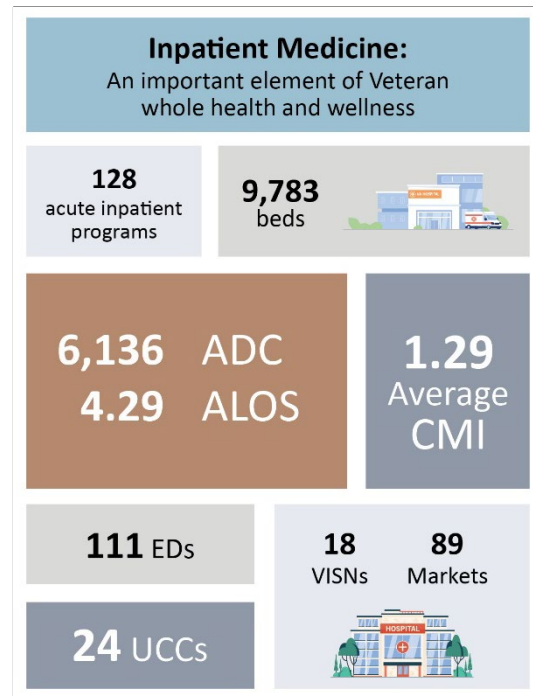
Inpatient Medicine Program Overview

The Hospital Medicine Program and Emergency Medicine Program mission statements echo the CSO’s commitment to best serve Veterans.

<p>Hospital Medicine Program Mission</p> <p>“Providing world class, Veteran-centric, team based, high touch inpatient care – whenever and wherever.” ¹¹</p>	<p>Emergency Medicine Program Mission</p> <p>“You were there for us, now we are here for you, 24/7/365 – VA Emergency Medicine.” ¹⁴</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------



Aligning VA Inpatient Medicine and Emergency Medicine and associated infrastructure with current and future demand is necessary to provide Veterans with access to high-quality care in the right location. In fiscal year (FY) 2019, there were 128 facilities across 89 markets in the VHA system with an acute Inpatient Medicine program.^{1 2 3} In total, these facilities comprise 9,783 inpatient medical and surgical (med/surg) beds across the nation with an average daily census (ADC) of 6,136 and an occupancy rate of 62.8%. Overall, Veteran enrollee population is projected to decrease 1.3% between FY 2019 and FY 2029 from 8.85 million to 8.73 million.^{2 3 4 1} Additionally, VA supports 9,768 Graduate Medical Education (GME) full-time equivalent (FTE) training positions across 100 specialties.⁵



The average length of stay (ALOS) across VA is 4.29 days, which is slightly above the commercial ALOS of 4.01 days.⁶ VA average case mix index (CMI) is 1.29, which is below the average commercial CMI of 1.64. A lower CMI indicates lower acuity and is typically correlated with lower ALOS. This indicates VA has an opportunity to lower ALOS, potentially decreasing bed need in the future.^{7 8}

In FY 2019, there were 111 emergency departments (ED) and 24 urgent care centers (UCC) throughout the VHA system. Across VHA, there were 2,348,450 ED encounters, increasing 3.5% from between FY 2017 and FY 2019, and 170,599 UCC encounters, decreasing 24.9% between FY 2017 and FY 2019.^{9 10 1}

Common commercial and VA health care system challenges include:

- Balancing capacity with current and future demand;
- Managing admission rates;
- Decreasing inpatient length of stay;
- Managing ED throughput and wait times;
- Maximizing bed and staffing utilization; and
- Recruiting and retaining providers, optimizing quality of care, and patient experience.

In addition, VA Inpatient Medicine management challenges include:

- A decreasing enrollee population;
- Projected increase in the number of priority group 1 Veterans;



- Aging infrastructure;
- Availability of quality community resources; and
- Meeting Veteran demand for inpatient care where Veterans are likely to access care, as set forth in the MISSION Act.

Resulting Planning Guidelines

Planning guidelines inform products of the market assessment process. The rationale for establishing VA planning guidelines is rooted in the belief that quality of care or patient safety may be compromised when a service falls below identified measures. Therefore, a service must be carefully examined to ensure that Veteran needs are appropriately met. Planning guidelines focus on a broad range of access, demand, staffing, quality, and facilities/environment of care considerations and are meant to help identify areas where the teams should carefully consider measurable performance indicators. The guidelines developed are not meant as standalone decision criteria to be used to make specific recommendations.

Specifically, this planning strategy for Inpatient Medicine and Emergency Medicine includes:

- Aligning Inpatient Medicine bed capacity with VA current and future demand by rightsizing acute care Inpatient Medicine programs;
- Defining a minimum viable program for acute Inpatient Medicine based on ADC;
- Defining minimum viable programs for Emergency Medicine, which includes EDs and UCCs, based on yearly encounters; and
- Defining the inter-relationship between Inpatient Medicine and Emergency Medicine.

Planning guidelines for Inpatient Medicine are designed to support Veteran demand at the facility level within a 60-minute drive time from a VA site of care. Therefore, planning for Inpatient Medicine and Emergency Medicine occurs at the facility-level. Planning, development, and operations for each VA Medical Center (VAMC) Inpatient Medicine and Emergency Medicine programs are the domain of local and regional executive leadership with assistance and direction from the VHA Hospital Medicine Program, Emergency Medicine Program, and Office of Nursing Services in concert with academic affiliates.

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



Inpatient Medicine and Emergency Medicine Planning Guidelines

Service	Primary Planning Guideline
Inpatient Medicine	<p><u>Open and Maintain</u></p> <p>Demand</p> <ul style="list-style-type: none"> • Minimum facility 10-year projected ADC ≥ 20 to open-or maintain • 34,641 non-overlapping enrollees within a 60-minute drive time of a VA site of care to support target ADC <p>Supply</p> <ul style="list-style-type: none"> • VA Hospitalists and consulting physicians that can support facility current and 10-year projected ADC ≥ 20 • Nursing and ancillary staff that can support facility current and 10-year projected ADC ≥ 20 <p>Access</p> <ul style="list-style-type: none"> • All VA Medical Centers with Inpatient Medicine capacity will have either an ED or UCC • Location or proposed location is in an enrollee-dense area with ability to capture 34,641 non-overlapping enrollees within a 60-minute drive time (to open) <p>Quality</p> <ul style="list-style-type: none"> • Patient Safety and Adverse Events Composite score (PSI 90) of < 1.5 for four consecutive quarters • 30-day readmission rate $< 20\%$ for two consecutive quarters <p>Resize</p> <ul style="list-style-type: none"> • Resize to maintain an average med/surg bed occupancy of 80% <p>Modernize or Replace</p> <ul style="list-style-type: none"> • Modernize or replace if main campus building is older than 40 years (for MAHSO, should not be built before 1980) <p><u>Partner</u></p> <p>Demand</p> <ul style="list-style-type: none"> • VA facility 10-year projected ADC < 20 <ul style="list-style-type: none"> ○ For rural submarkets and rural markets, see Rural Health National Planning Strategy for VA micro hospital partnership planning guidelines ○ Evaluate continued need for VA ED or VA UCC <p>Supply</p> <ul style="list-style-type: none"> • Another VA inpatient acute care facility within 60-minute drive time with capacity to absorb current and projected FY 2029 ADC without exceeding 80% occupancy • The partner facility or combined partner facilities can absorb the current and projected 10-year VA ADC without exceeding 80% occupancy <p>Access</p>



Service	Primary Planning Guideline
	<ul style="list-style-type: none"> • Target a 60-minute drive time or less from a current VA site of care or within an enrollee dense area <p>Quality</p> <ul style="list-style-type: none"> • The partner facilities: <ul style="list-style-type: none"> ○ Are currently Joint Commission (TJC) accredited; ○ Currently has a minimum Centers for Medicare & Medicaid Services (CMS) 3-star rating; ○ Have a Patient Safety and Adverse Events Composite score (PSI 90) of < 1.5 for two out of the past three years; and ○ Have a 30-day readmission rate < 20% for two out of the past three years.
Emergency Department	<p><u>Open and Maintain</u></p> <p>Demand</p> <ul style="list-style-type: none"> • Minimum ED encounters ≥ 13,000 per year <p>Supply</p> <ul style="list-style-type: none"> • ED Director is board certified in Emergency Medicine • Adequate staff to support an ED with 1.5 encounters per hour, 24 hours per day, seven days per week <p>Access</p> <ul style="list-style-type: none"> • Location or proposed location is in an enrollee-dense area within a 30-minute drive time <p><u>Partner</u></p> <p>Other</p> <ul style="list-style-type: none"> • Align ED partnerships with the partnerships established for delivery of inpatient medical care.
Urgent Care Center	<p><u>Open and Maintain</u></p> <p>Demand</p> <ul style="list-style-type: none"> • Minimum UCC encounters ≥ 5,975 per year • 6,800 non-overlapping enrollees within a 30-minute drive time of a VA site of care <p>Supply</p> <ul style="list-style-type: none"> • Ability to recruit and retain enough physician or advanced practice providers • Adequate staff to support a UCC within defined operating hours <p>Access</p> <ul style="list-style-type: none"> • Target an enrollee-dense area that provides the most access to Veterans within a 30-minute drive time



Future Program Planning

The four-step process for revisiting MAHSO draft opportunities describes how Inpatient Medicine-specific market assessment opportunities will be reviewed and updated, if necessary:

1. Review Phase 1-3 market assessment data and Inpatient Medicine and Emergency Medicine opportunities.
2. Apply Inpatient Medicine and Emergency Medicine planning guidelines.
3. Update/Create Inpatient Medicine and Emergency Medicine opportunities.
4. Review and finalize opportunities with VA Leadership.

VA will use the national planning guidelines to apply standard programmatic criteria to major strategic opportunities identified in the market assessments. The planning guidelines will also inform future quadrennial market assessments and other long-range planning exercises.

Conclusion

The National Planning Strategy guidelines support efforts to match capacity planning to Veteran demand and establish sound, Veteran-centric recommendations to inform and support the development of the VA AIR Commission Report. They are also intended to add to existing VA planning guidelines and be used for future planning activities.



1. Inpatient Medicine Overview

Acute inpatient medical care is an integral part of treating the whole health of Veterans and is delivered by Veterans Affairs (VA) at VA Medical Centers (VAMC) as well as purchased through the Community Care Network (CCN). Each VAMC inpatient acute care program's planning, development, and operations are the domain of local and regional executive leadership, sometimes in concert with academic affiliates. This Inpatient Medicine National Planning Strategy provides an objective, data-driven methodology for planning Inpatient Medicine and Emergency Medicine to support the high-performing integrated delivery networks VA envisions.

Veterans have some unique health care needs, and it is essential for VA's acute Inpatient Medicine and Emergency Medicine programs to provide access to high quality, Veteran-centric care that supports acute and emergent medical episodes. Systemwide utilization of VA inpatient beds has decreased over the past years.⁴ Shifting standards in medical treatment and services, enabled by advances in technology, have resulted in transitioning care to alternative care settings. Demand for acute inpatient medical and surgical (med/surg) average daily census (ADC) is projected to decrease 14.5% from 5,979 ADC in fiscal year (FY) 2019 to 5,113.5 ADC in FY 2029.^{4 3}

VA-specific challenges, such as shifting population centers, decreasing inpatient acute care demand trends, and evolving Veteran expectations, in addition to the access requirements brought about by the VA Maintaining Systems and Strengthening Integrated Outside Networks (MISSION) Act, all support the need for a National Planning Strategy for Inpatient Medicine. Planning guidelines will help inform optimal alignment of inpatient capacity and Veteran demand. As part of this guidance, an important element of inpatient acute care is the emergency department (ED). EDs provide a means of triaging and treating or referring patients for further care with urgent or emergent health care symptoms or needs.

1.1 Program Mission

As the largest integrated health care delivery system in the United States (U.S.), VA's mission is to provide high quality, accessible, and Veteran-centric health care services. Inpatient Medicine is a critical component in fulfilling that mission, and Inpatient Medicine programs seek to “provide world class, Veteran-centric, team based, high touch inpatient care – whenever and wherever”.¹¹ VA Inpatient Medicine programs have a relationship with their academic affiliates to jointly staff and operate programs. This care is provided by a team of health care providers working together to assist and enhance the natural healing process necessary for the patient to transition to post-acute or outpatient care.

In FY 2019, VA had 128 facilities in 89 markets with Inpatient Medicine programs, which contained 9,783 acute inpatient med/surg beds in both urban and rural markets.^{2 3 1} Markets can be classified as urban or rural, based on where most market enrollees live.



A market that has greater than 50% of enrollees living in rural areas is considered a rural market. The majority of inpatient med/surg beds are in urban areas.¹ Accounting for the projected 14.5% decrease in ADC from 5,979 ADC in FY 2019 to 5,113.5 ADC in FY 2029, VA will need 6,392 beds in FY 2029, based on an 80% occupancy rate, which is a 34.7% decrease in acute inpatient beds.^{4 2 3}

Sixty-nine percent of VA acute care facilities are older than 50 years, with a median age of 58 years.¹ This presents a challenge for VA to maintain current regulatory compliance, patient expectations related to the care environment, and may lead to increased maintenance and operations cost.

Developing a National Planning Strategy will help optimize care delivery and drive a consistent standard of care. This study will review VA acute Inpatient Medicine and Emergency Medicine, define appropriate planning guidelines designed to adopt industry leading practices, maximize performance outcomes, and address access, safety, and quality at the best value.

1.2 Opportunity Statement

A VA national, integrated, data-driven care delivery approach to planning Inpatient Medicine and Emergency Medicine is imperative. This National Planning Strategy is designed to ensure care continuity, decrease gaps in access, support delivery of high-quality care, and continue the VA focus on stabilization, treatment, and recovery. The purpose of this document is to develop a coordinated National Planning Strategy for acute Inpatient Medicine and Emergency Medicine, which is needed to better align VA market resources with current and future market demand.



2. Current State Overview

This section provides an overview and current state of VA Inpatient Medicine and Emergency Medicine programs and trends across commercial and other Federal providers. The primary challenges driving the need to evaluate and modify programs to best serve Veterans include the increasing number of Veterans in priority group 1, who are eligible to receive all services, the aging of enrollees, and Veteran migration. Additional challenges include heterogeneity of ADC and ED encounters across Veterans Integrated Service Networks (VISN), aging facilities, provider shortages, and expanded Veteran health care choices resulting from the MISSION Act.

2.1 Demographic and Programmatic Distribution Analysis

Programmatic Overview

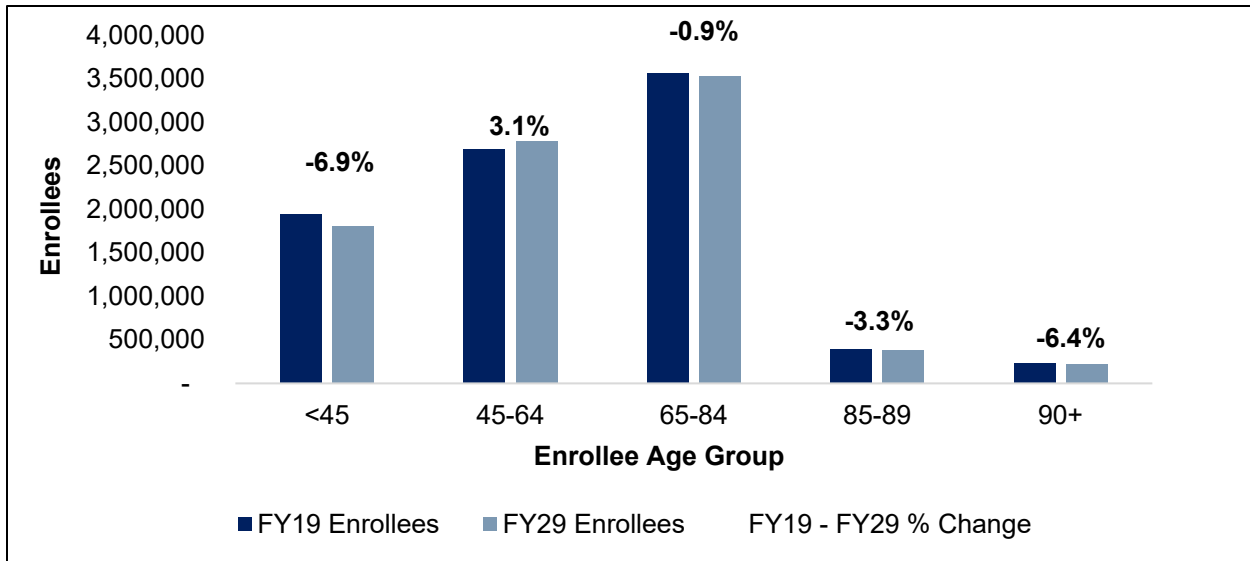
The national scope of Inpatient Medicine services offered at VA spans the full range of medical specialties and complexities. However, service offerings range by market and facility in terms of number of programs, size of programs, proximity of patients to care, specialties offered, complexity of patients, and availability of related VA programs including inpatient and outpatient surgery, inpatient mental health, transitional rehabilitation, and long-term care. Under the MISSION Act, Veterans are eligible to receive care in the community if VA specialty services are not available within a 60-minute drive time or greater than a 28-day wait time. A systematic review comparing VA to non-VA quality of care revealed that “VA often (but not always) performs better than or similarly to other systems of care with regard to the safety and effectiveness of care.”¹² However, when presented with the option, many Veterans are choosing medical care in the communities where they live.¹³

Demographics

In FY 2019, there were 13.7 million Veterans that were eligible to receive health care services at VA, of which 8.8 million (64.4%) were enrolled with VA.⁴ Of those 8.8 million enrolled across the 96 markets, more than 65% of enrollees were identified as core uniques, which are Veterans who are recognized as VA’s primary users of health care services.⁴ Overall, the number of Veteran enrollees is projected to decrease slightly by 1.3% between FY 2019 and FY 2029, from 8.8 million to 8.7 million. Within this slight decrease, there is projected to be an overall shift in demographics within the enrollee population. As shown in Figure 1, the under 45 and over 90 age groups are projected to experience the largest decrease between FY 2019 and FY 2029. The under 45 age group is decreasing from 1.94 million to 1.81 million enrollees and the over 90 age group is decreasing from 237,297 to 222,167 enrollees. The only age group with a projected increase between FY 2019 and FY 2029 is enrollees aged 45 to 64, increasing 2.70 million to 2.78 million enrollees. However, the 65 to 84 age group is projected to remain as the largest cohort with more than 3.5 million enrollees.



Figure 1: FY 2019-29 Enrollees by Age Group (Years)



Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019.

Enrollee priority groups (defined in Appendix D) are also projected to shift. Table 1 shows this shift, in which a large decrease is anticipated in priority groups 2 through 8, while priority group 1 is projected to increase by 48.4% by FY 2029. Priority group 1 enrollees have the highest level of service-connected disability and have higher reliance on VA than other enrollees.¹⁴

Table 1: FY 2019-29 Enrollees by Priority Group

Priority Group	FY 2019 Enrollees	FY 2029 Enrollees	FY 2019 29 Change
1	2,723,092	4,040,055	48.4%
2	728,892	651,794	-10.6%
3	1,268,741	1,128,910	-11.0%
4	161,625	109,913	-32.0%
5	1,582,218	1,107,306	-30.0%
6	470,744	356,283	-24.3%
7	382,939	378,516	-1.2%
8	1,528,376	960,113	-37.2%
Total	8,846,627	8,732,890	-1.3%

Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019.

Overall bed days of care (BDOC) are projected to decrease from 2.16 million BDOC in FY 2019 to 1.86 million BDOC in FY 2029 (see Table 2). The data in the table reflects 2019 projection and not actual BDOC. A large decrease is projected in BDOC demand and enrollees in priority groups 2 through 8, while priority group 1 enrollees and BDOC is projected to increase.⁴



Table 2: FY 2019-29 Inpatient Bed Demand Based on Priority Groups

Priority Group	FY 2019 Projected Bed Days of Care	FY 2029 Projected Bed Days of Care	FY 2019 29 Projected Change
1	801,377.0	1,023,476.2	27.7%
2	112,206.0	89,198.8	-20.5%
3	202,928.0	153,410.3	-24.4%
4	254,154.0	134,352.6	-47.1%
5	593,166.0	337,369.3	-43.1%
6	26,968.0	20,237.9	-25.0%
7	50,743.0	38,954.6	-23.2%
8	125,728.0	69,420.8	-44.8%
Total	2,167,270.0	1,866,420.4	-13.9%

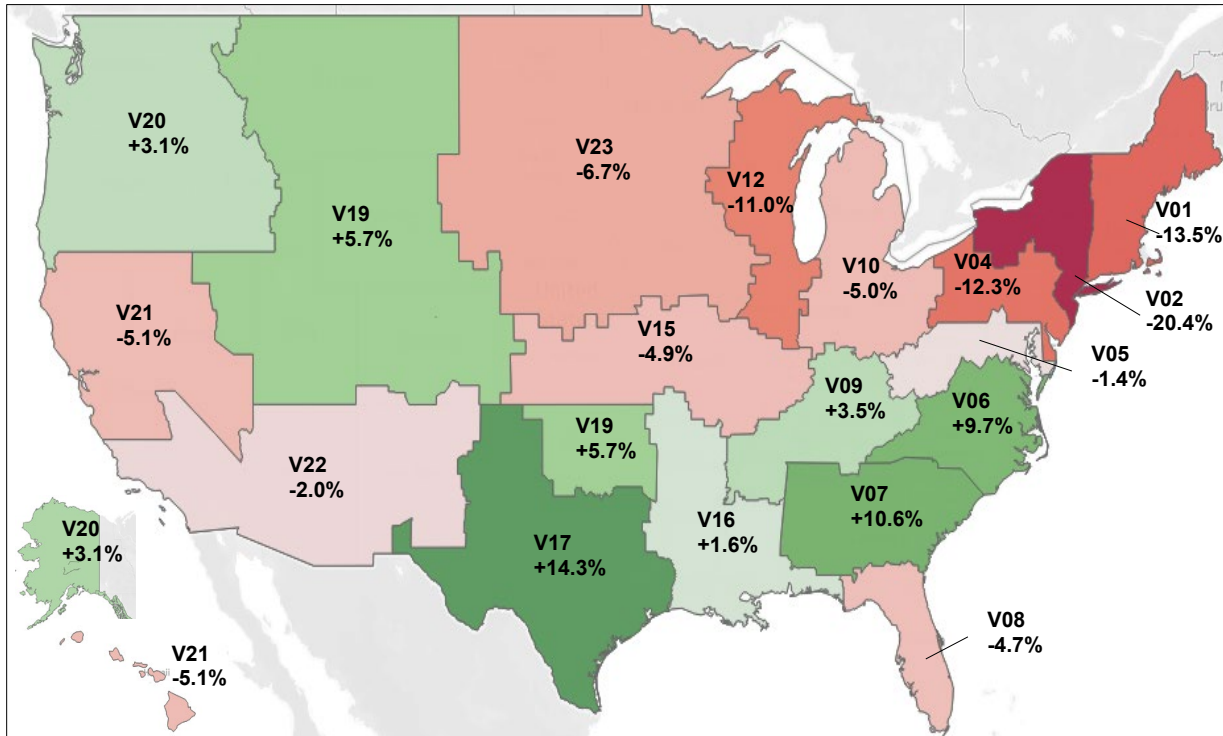
Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019.

In FY 2029, the enrollee population will continue to be predominately men (87.8%). Between FY 2019 and FY 2029 the women enrollee population is projected to increase 32.5% to approximately 1.1 million enrollees, while the men enrollee population is projected to decrease 4.7% to approximately 7.7 million. ⁴

In addition to demographic shifts within the enrollee population, Veteran enrollment is projected to experience a geographic shift by FY 2029. VISNs located in the Northeast, and some in the Midwest, regions are projected to experience substantial decreases in enrollment, while some VISNs located in the Southern and Southwestern regions are projected to increase significantly (see Figure 2). ⁴



Figure 2: FY 2019-29 Enrollee Change by VISN



Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019.

2.2 Current VA Program Review and Analysis

Inpatient Medicine Overview

In FY 2019, there were 128 facilities across 89 markets in the Veterans Health Administration (VHA) system with an Inpatient Medicine program. The age of this expansive infrastructure poses operational challenges and historically, there has not been a strategic plan to upgrade facilities.¹⁵ Nationally, the median age of U.S. private sector hospitals is between 10.78 years and 11.48 years.¹⁶ However, the median age of VA's portfolio is 58 years, with 69% of VA hospitals over 50 years old.¹

In most acute care inpatient facilities, beds are commonly utilized as med/surg beds and patients with varying diagnoses are placed in these beds. The data for the Inpatient Medicine National Planning Strategy does not differentiate patients by bed type. For this National Planning Strategy report, all acute care inpatient med/surg operating beds will be included. References to ADC will include the census of patients in med/surg beds. Beds designated as Mental Health beds will not be addressed in this report. Inpatient surgical capacity is addressed in the Surgery National Planning Strategy. In total, VHA facilities comprise 9,783 inpatient med/surg beds across VA with an average ADC of 6,136 and an occupancy rate of 62.8%. This equates to 1.5 beds and 0.9 ADC per 1,000 enrollees (see Table 3).



Table 3: FY 2019 Inpatient Medicine Overview

VHA Inpatient Medicine Overview	
Number of Facilities	128
Total Inpatient Med/Surg Beds	9,783
Sum of FY 2017-19 Avg ADC	6,136.4
Occupancy Rate	62.8%
Beds per 1,000 enrollees	1.5
ADC per 1,000 enrollees	0.9

Source: Managerial Cost Accounting Office Discharge Cube; FY 2020 Q1 VA Station Report; Beds reported by the field in Government Furnished Information submission; Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019.

The distribution of facilities and inpatient med/surg beds varies and by region. As shown in Table 4 below, beds per 1,000 enrollees varies from a low of 1.1 in the Northeast to a high of 2.2 in the Rocky Mountain/Central region, reflecting differences in historical build-out of facilities, as well as differing practice pattern and/or utilization management. This table indicates that regions with more beds per enrollee have higher ADC per enrollee.

Table 4: Distribution of Facilities and Beds

Region	VISNs	Total Enrollee Population within 60 minutes	Number of Facilities	Beds	Beds per 1,000 Enrollees	ADC per 1,000 Enrollees
Northeast	1, 2, 4, 5, 6	1,955,353	35	2,168	1.1	0.7
Southeast	7, 8, 16	1,096,158	22	2,163	2.0	1.2
Midwest	9, 10, 12, 15	1,471,562	32	2,098	1.4	0.9
Rocky Mountain/Central	19, 23	416,429	15	914	2.2	1.2
Southwest	17, 22	1,133,702	13	1,591	1.4	0.9
Northwest	20, 21	531,085	11	849	1.6	1.1

Source: FY 2020 Q1 VA Station Report; Geocoded Enrollee File FY 2018 Q4; Beds reported by the field in Government Furnished Information submission; Managerial Cost Accounting Office Discharge Cube

The size of programs varies considerably from a low of seven beds at the Erie VAMC in Erie, Pennsylvania to a high of 268 beds at the Michael E. DeBakey VAMC in Houston,



Texas. For the purposes of this study, facilities can be divided into four ADC “tiers”: less than 20; 20 to 49; 50 to 99; and 100 and over.

As shown in Table 5 below, occupancy rates vary significantly by program size ranging from 39.8% for the smallest tier to 68.9% for the largest tier. Facilities in the smallest tier are typically in smaller urban or rural areas serving a more widely distributed population as shown by the low enrollee population within a 60-minute drive time of VA site of care. This low enrollee base creates sustainability challenges in smaller facilities, particularly in areas such as the Northeast, where the enrollee base is decreasing. This table indicates that tiers with more beds per enrollee have a higher ADC per enrollee.

Table 5: VA Characteristics by ADC Tier

Tier	Tier ADC	Average Enrollees within 60 minutes	Number of Facilities	FY 2018 Average Operating Beds	FY 2017 FY 2019 Avg ADC	FY 2019 Average Occupancy Rate	Beds per 1,000 Enrollees	ADC per 1,000 Enrollees
1	<20	23,391	37	25	9.8	39.8%	1.0	0.4
2	20-49	48,063	35	58	34.4	59.8%	1.2	0.7
3	50-99	67,333	43	107	70.3	65.5%	1.6	1.0
4	≥100	89,330	13	173	119.0	68.9%	1.9	1.3

Source: Managerial Cost Accounting Office Discharge Cube; FY 2020 Q1 VA Station Report; Beds reported by the field in Government Furnished Information submission; Geocoded Enrollee File FY 2018 Q4

Across all facilities, VA average length of stay (ALOS) is 4.20 days, slightly above the commercial ALOS of 4.01 days. ⁶ VA average case mix index (CMI) is 1.29, below the average commercial CMI of 1.64. ⁶ A lower CMI indicates lower acuity and is typically correlated with lower ALOS, which indicates VA has opportunity to lower ALOS, potentially decreasing bed need in the future. ^{7 8} The differences between VA and commercial ALOS and CMI are greatest in the smaller Tier 1 and Tier 2 facilities. Notably, VA facilities with less than 20 ADC have an ALOS nearly one day longer than the commercial average, though CMI is 28% lower. VA facilities with higher ADC have an ALOS more aligned with commercial facilities’ ALOS, while the CMI of these VA facilities is lower (see Table 6).

Table 6: Commercial and VA ALOS and CMI by ADC Tier

Tier	Tier ADC	VA ALOS	Commercial ALOS	Average VA CMI	Average Commercial CMI for VA Markets	VA 2019 Average Mortality Rate	VA 2019 Average Readmission Rate
1	<20	4.03	3.19	1.06	1.61	0.94	10.0%
2	20-49	4.24	3.91	1.29	1.64	0.90	11.3%
3	50-99	4.44	4.24	1.42	1.69	0.86	11.7%



Tier	Tier ADC	VA ALOS	Commercial ALOS	Average VA CMI	Average Commercial CMI for VA Markets	VA 2019 Average Mortality Rate	VA 2019 Average Readmission Rate
4	≥100	4.72	4.71	1.49	1.60	0.81	11.7%

Source: Strategic Analytics for Improvement and Learning Scorecard; Managerial Cost Accounting Office Discharge Cube; Centers for Medicare & Medicaid Services Cost Reports; IBM Market Expert

Inpatient Med/Surg Demand Outlook

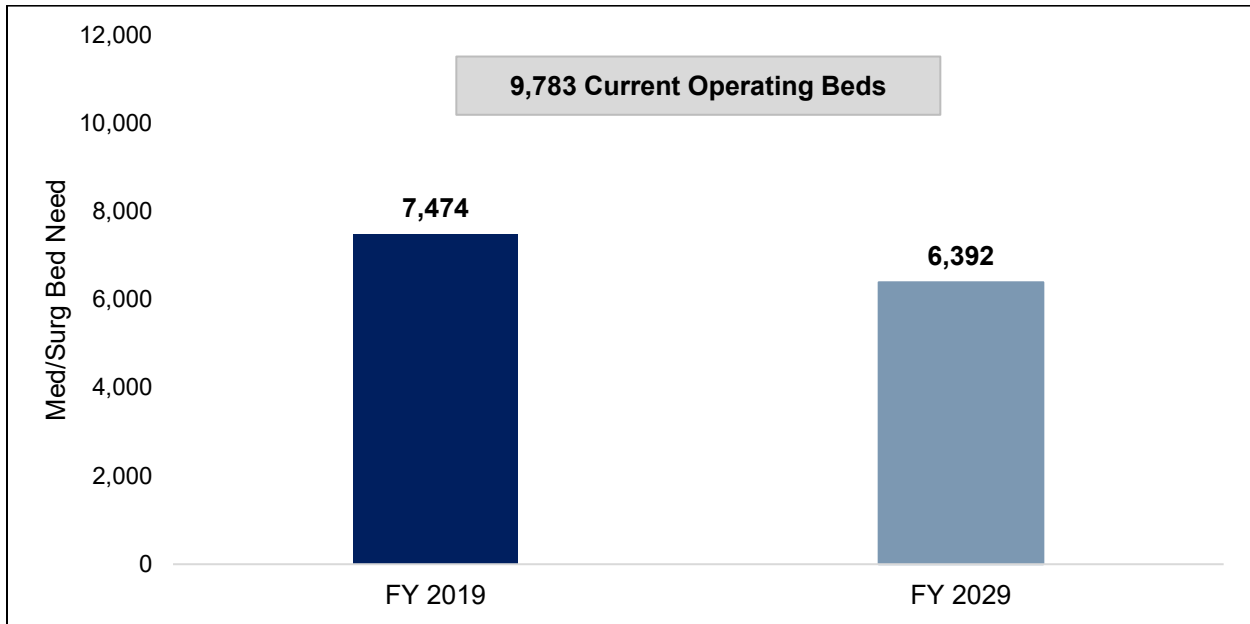
VA is facing demand challenges on four distinct fronts:

- Inpatient bed utilization across the country is decreasing as health care systems work to decrease length of stay to minimize adverse outcomes and lower costs, while at the same time shifting more care to ambulatory settings.
- The MISSION Act allows Veterans greater choice in seeking commercial inpatient care if it is not available within a 60-minute drive time of a VA site of care or wait time is greater than 28 days. Though the full effect of the MISSION Act is not yet known, site interviews indicate that there will be a significant shift from VA to community care.¹³
- The overall Veteran enrollee population is projected to decrease by 1.3% through FY 2029 with the 65 and older population, by far the highest utilizers of inpatient care, decreasing while younger cohorts increase.⁴ The trend of decreasing Veteran population is projected to continue; however, the affect may be mitigated to some extent by the increase in higher priority groups which may positively influence VA utilization.
- As enrollees become Medicare eligible, they often seek services outside VA, until they need extended care later in life and return to VA.¹⁷

Overall, inpatient med/surg bed ADC is projected to decrease 14.5% to 5,113.5 ADC by FY 2029, equating to a need for 6,392 beds at an 80% occupancy rate. With 9,783 operating beds currently, this implies future surplus of 3,391 beds or 34.7% (see Figure 3).⁴ This data is based on actual 2019 data and 2029 projections.



Figure 3: Current and Future Supply and Demand of all VHA Med/Surg Beds



Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019; Beds reported by the field in Government Furnished Information submission

There is significant variation in bed supply relative to future demand by VISN. This is driven by differences in current capacity relative to utilization. Table 7 below illustrates projected bed demand and projected future surplus of beds by VISN based on an 80% occupancy rate.

Table 7: Beds and ADC by VISN

VISN	# of Facilities	FY 2017 19 ADC	Current Beds	Future FY 2029 ADC	Future Bed Demand (80% Occupancy)	Future Surplus (Beds)	Future % Surplus
1	5	230.2	327	91.7	115	212	65%
2	10	344.6	588	275.4	344	244	41%
4	6	219.7	315	176.5	221	94	30%
5	7	257.2	447	182.7	228	219	49%
6	7	329.6	491	285.0	356	135	27%
7	7	350.8	569	323.5	404	165	29%
8	8	703.5	1,059	675.2	844	215	20%
9	6	322.0	526	248.1	310	216	41%
10	10	427.9	707	355.8	445	262	37%
12	8	361.6	464	307.5	384	80	17%



VISN	# of Facilities	FY 2017 19 ADC	Current Beds	Future FY 2029 ADC	Future Bed Demand (80% Occupancy)	Future Surplus (Beds)	Future % Surplus
15	8	239.3	401	188.4	235	166	41%
16	7	236.8	535	205.2	257	278	22%
17	5	472.3	758	454.4	568	190	46%
19	8	247.2	368	179.6	225	143	39%
20	5	224.5	391	197.6	247	144	37%
21	6	342.4	458	281.7	352	106	23%
22	8	578.7	833	465.6	582	251	30%
23	7	248.1	546	219.6	274	272	50%
Total	128	6136.4	9,783	5113.5	6,392	3,391	35%

Source: Department of Veterans Affairs. Enrollee Healthcare Projection Model 2019; Beds reported by the field in Government Furnished Information submission; Managerial Cost Accounting Office Discharge Cube

Emergency Medicine and Urgent Care Overview

In FY 2019, there were 111 EDs and 24 urgent care centers (UCC) throughout the VHA system. Across VHA, there were 2,348,450 ED encounters, increasing 3.5% between FY 2017 and FY 2019, and 170,559 UCC encounters, decreasing 24.9% between FY 2017 and FY 2019.

The workload of EDs varies considerably from a low of 5,721 FY 2019 encounters at White River Junction VAMC to a high of 44,354 encounters at West Los Angeles VAMC. For the purposes of this study, EDs can be divided into four encounter “levels” based on volume: less than 10,000; 10,000 to 19,999; 20,000 to 29,999; and over 30,000. As shown in Table 8 below, the number of annual encounters closely track the number of enrollees within a 30-minute drive time. Facilities in the smallest level are typically in smaller urban and rural areas serving a more widely distributed rural population as shown by the low enrollee population within a 30-minute drive time. This smaller enrollee base creates sustainability challenges in smaller facilities, particularly in areas where enrollment is decreasing.



Table 8: ED Encounters

Level	Encounters	FY 2017-19 Average ED Encounters	Number of Facilities	Average Enrollees Within 30 Minutes
1	<10,000	8,027	12	8,576
2	10,000-19,999	14,064	39	14,623
3	20,000-29,999	24,182	43	27,124
4	≥30,000	37,587	17	40,621

Source: Veterans Health Administration Support Services Center Encounters Cube; Emergency Medicine Management Tool; FY 2020 Q1 VA Station Report; Geocoded Enrollee File FY 2018 Q4

As shown in Table 9, national VA ED encounters, coded under five current procedural terminology (CPT) codes that differentiate acuity, are well distributed by complexity level. Only 17.4% of visits comprise lower complexity visits (CPT 99281 and 99282), that can often be treated in a lower acuity urgent care setting. Overall, higher acuity encounters increased rapidly while lower acuity encounters decreased.

Table 9: ED Encounters by CPT Code

CPT Code	FY 2019 Encounters	Percent of Total Encounters	Percent Change FY 2017-19
99281	130,411	6.1%	-8.5%
99282	239,742	11.3%	-8.4%
99283	772,553	36.3%	-4.7%
99284	640,610	30.1%	12.0%
99285	347,474	16.3%	47.8%

Source: Veterans Health Administration Support Services Center Encounters Cube; Emergency Medicine Management Tool

The importance of EDs to inpatient acute care cannot be overstated. With over two million annual encounters and an admission rate of 18.8%, excluding inpatient mental health admissions, ED admissions account for approximately 66% to 70% of all inpatient med/surg ADC across the VHA.¹⁸

In FY 2019, the workload of UCCs varied considerably from a low of 943 encounters to a high of 26,588 encounters. Seventeen of the current 24 UCCs are located at VAMCs without EDs, primarily at smaller VAMCs with less than 20 ADC and a relatively small average enrollee population of 8,317 within a 30-minute drive time. See Table 10 for additional information on UCC encounters.



Table 10: UCC Encounters

Level	Level Encounters	FY 2017 19 Average UCC Encounters	Number of Facilities	Average Enrollees Within 30 Minutes
1	<1,000	212.2	2	7,405
2	1,001-9,999	5,496	13	11,430
3	10,000-19,999	11,868	8	15,212
4	≥20,000	25,769	1	34,888

Source: Veterans Health Administration Support Services Center Encounters Cube; FY 2020 Q1 VA Station Report; Geocoded Enrollee File FY 2018 Q4

Community Care Utilization

Community Care utilization varies by market and facility due to differences in VA and community capacity, the availability and quality of Community Care partners, and the enrollees’ distance to care. In FY 2019, nationally, 18.8% of the Inpatient Medicine care received by enrollees was delivered directly by VA. By comparison, 6.9% of Inpatient Medicine care was delivered through the CCN paid for by VA. Enrollees relied on other community health care resources and payers (insurance) for 74.3% of their Inpatient Medicine care. ¹⁹ Of note, as enrollees become Medicare eligible, they often seek services outside VA, until they need extended care later in life and return to VA. ¹⁷ Implementation and rollout of MISSION Act may increase Community Care reliance in situations where drive-time or wait-time criteria are not met.

Academic Mission

The VA must provide assistance in the training of health care providers for the good of VHA and for the good of the nation, pursuant to 38 U.S.C § 1204. ^{20 21} Since 1946, VA has worked with academic institutions to provide both medical and allied health education to prospective doctors, nurses, and advanced practitioners. According to the Office of Academic Affiliations, over 65.0% of all U.S. trained physicians have received some form of training at VA. ²² These partnerships between VA and academic medical centers have evolved over time, and today both entities are reliant on each other for different reasons. These partnerships give VA access to some of the premier medical centers across the country. Partnerships with academic medical centers also provide VA the ability to jointly recruit top specialty talent and serve as an aid in medical center staffing. For the graduate medical training programs, these partnerships provide residents with the opportunity to develop their clinical knowledge of health care issues facing Veterans. Jointly appointed physician faculty members conduct research that advances medical science for both Veterans and civilians alike.

Over 65.0% of all U.S.-trained physicians have received some form of training at VA.



Today, VA supports 9,768 Graduate Medical Education (GME) full-time equivalent (FTE) training positions across 100 specialties. The top five largest specialties by number of FTE positions are internal medicine (2,936), psychiatry (911), general surgery (585), cardiology (362), and neurology (315). The positions are concentrated in facilities with 20 or more ADC. Smaller facilities with less than 20 ADC account for only 4% of overall GME FTEs with an average of 12 positions per facility.¹ See Table 11 for more information on GME positions by ADC tier.

Table 11: GME Positions by ADC Tier

Tier	Tier ADC	Count of GME Positions (FTEs)	Average GME FTEs per Facility
1	<20	440	12
2	20-49	2,212	63
3	50-99	5,156	120
4	≥100	1,979	152

Source: Facility Summary Report provided by Office of Academic Affiliation; Managerial Cost Accounting Office Discharge Cube; FY 2020 Q1 VA Station Report

Inpatient Medicine and VA’s Fourth Mission

VHA provides emergency management response and disaster relief in times of crisis. The 1982 VA/Department of Defense (DoD) Health Resources Sharing and Emergency Operation Act (P.L. 97-174) initiated VA’s authority to provide emergency management response support. This authority was further expanded by the Federal Response Plan in 1992. The creation of these laws led to what would become VA’s “Fourth Mission,” which is defined as VA’s effort “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.”²³

During the COVID-19 pandemic, VA provided Fourth Mission support in many communities. This support included placing both clinical and non-clinical VA staff onsite in a community or VA facility, training in infection control measures, and providing personal protective equipment to other health care organizations. Between March 2020 and June 2021, VHA cared for 748 civilian (non-Veteran) patients admitted as an inpatient to a VA acute care hospital with confirmed positive and presumed positive COVID-19.²⁴

The VHA experienced a 42% decrease of inpatient admissions from March 11, 2020 to April 21, 2020, compared to the preceding six weeks.²⁵ The effect on VHA Emergency Medicine was a decrease in the number of patient visits to

¹ Although GME FTEs exist, they may not be filled.



the ED (19.8% decrease) and to the urgent care centers (28.6% decrease) for January 2020 to June 2020 when compared with the same time frame in 2019.²⁶ While ED volumes appear to be rebounding, the long-term effects of COVID-19 on Inpatient Medicine and Emergency Medicine programs are yet to be determined.¹¹

2.3 Commercial and other Federal Provider Trends

Inpatient medical care generally refers to any medical service that requires admission into an acute care hospital and requires one or more overnight stays. Today, there are more than 6,000 hospitals in the U.S. and over 900,000 staffed inpatient beds.²⁷ Hospitals can be classified in several different ways, including type of patients serviced (general, children, and rehabilitation), ownership (commercial versus public), location (urban or rural), size, and academic affiliation.

Understanding trends and drivers in commercial and Federal providers is important for VA health care planning. VA's commitment to providing health care services convenient to Veterans includes contracting with other health care organizations. These organizations include Federal, tribal, and commercial community health care providers. While the patient care goals in these different entities largely align, the stakeholders and drivers of these goals differ. Cost management and efficiencies are primary drivers for Federal entities pursuant to policy and regulation, including VA, whereas in the private sector, productivity and profit are the primary drivers (see Table 12).²⁸ These differences can affect VA's ability to contract for services in locations not well served by VA facilities. Health care providers outside of VA may also have goals that affect access to health care for enrolled Veterans. For instance, DoD inpatient facilities have deployments that lessen their ability to provide services.



Table 12: Comparing Balanced Scorecards in the Private and Public Sector

Feature	Private Sector	Public Sector
Focus	Shareholder Value	Mission Effectiveness
Financial goals	Profit, market share growth, innovation, creativity	Cost reduction, efficiency, accountability to the public
Efficiency concerns of clients	No	Yes
Desired outcome	Customer satisfaction	Stakeholder satisfaction
Stakeholders	Stockholders, bondholders	Taxpayers, legislators, inspectors
Who defines budget priorities	Customer demand	Leadership, legislators, funding agencies
Keys success factors	Uniqueness, advanced technology	Sameness, economies of scale, standardized technology

Source: National Research Council (2008), p. 68, Mathys and Thompson (2006)

For Inpatient Medicine, one important trend driven by these goals and priorities in commercial health care is the transition in care settings. Medical care that has historically been delivered in inpatient settings is shifting to alternative and outpatient settings, while the percentage of care being delivered in the Emergency Department is increasing.²⁹ This shift will affect VA’s approach to securing better access to care for Veterans.

VA partners with local communities, and other Federal, state, tribal, and local government entities to ensure Veterans get the care they need. This is arranged through contractual arrangements with these providers to provide care for enrolled Veterans. VA is focusing on consolidating inpatient care in partnership with community systems to provide Veterans better access to care, no matter where they are located.³⁰ For those services provided by external partners, VA provides care management as a core business competency to ensure VA’s continuum of care is highly integrated with any care the Veteran receives outside of VA.

Optimizing access to and the provision of Inpatient Medicine and Emergency Medicine at VA requires examination of available and emerging data to give planners and decision makers the data and metrics necessary to better plan for and efficiently allocate resources on behalf of enrolled Veterans.



Commercial, Federal, and Academic Typologies

Despite its size and expanse, VA relies on community health partners as well as other Federal entities to provide Inpatient Medicine and Emergency Medicine services to enrolled Veterans. Under the MISSION Act, Veterans are eligible to receive care in the community if VA services are not available within a 60-minute drive time or have greater than a 28-day wait time. Some of these partner facilities may be staffed by faculty who also have part-time VA appointments. These entities have primary missions that do not entirely align with VA. Federal entities, such as DoD, have a primary mission of deployment readiness, while also providing routine care for active-duty service members and their dependents. Academic Medical Centers, while sharing VA mission of patient care, teaching, and education, must also compete with community hospitals for patients and commercial contracts. Planning for Inpatient Medicine and Emergency Medicine at VA must include a thorough evaluation of commercial and Federal partners and optimal integration strategies to support the continuum of care at VA.

Planning for Inpatient Medicine and Emergency Medicine at VA must include a thorough evaluation of commercial and Federal partners and optimal integration strategies to support the continuum of care at VA.

Inpatient Medicine Commercial Trends

Shift to Outpatient Care

The ongoing shift from inpatient to outpatient and alternative care settings is largely driven by emerging value-based care reimbursement models, as well as advancing technology. This evolution has affected commercial health care entities both large and small. Community hospitals, which include non-Federal, short-term, and specialty hospitals and account for 85% of all hospitals, have seen a decrease in inpatient beds over the 20-year period from 1999 to 2019.³¹ Inpatient days, length of stay, and hospital admissions decreased from 1999 to 2019, while ED and outpatient visits increased (see Table 13).

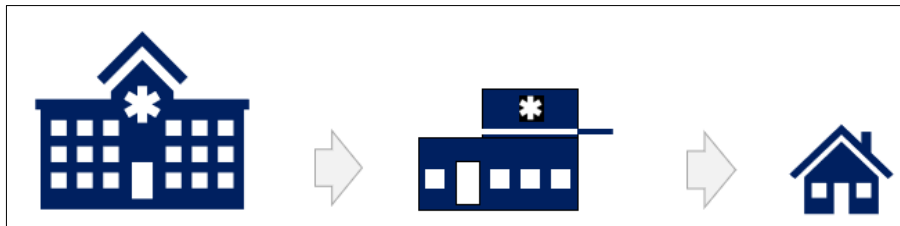
Table 13: Inpatient and Outpatient Changes

Changes per 1,000 Population			
	1999	2019	% Change
Hospital Beds	3.0	2.4	-20.0%
Inpatient Days	704	564	-19.9%
Hospital Admissions	119	104	-12.6%
ED Visits	365	437	19.7%
Outpatient Visits	1,817	2,392	31.6%

Source: Kaiser Family Foundation



In 1946, Congress passed the Hill-Burton Act, which provided Federal grants and guaranteed loans to construct and modernize the nation’s health care system in exchange for providing a “reasonable” amount of uncompensated care to individuals.³² The Hill-Burton Act stopped providing funding in 1997 and today, the U.S. has 2.4 beds per 1,000 people.^{31 32} The commercial market has adjusted to this decrease in bed demand and contracted its inpatient infrastructure. Health systems are designing and building next generation care facilities to meet today’s focus on outpatient care, prevention, wellness, and digital engagement.³¹ Hospitals are evolving to be centers of care for acute and critically ill patients and providers of advanced and specialty procedures and treatments.



Focus on Care Management and Social Determinants of Health

There is a heightened focus and evolving effort in enhancing care management across the continuum, which is affecting inpatient admissions and stays. Enhanced discharge planning and decreasing avoidable admissions and readmissions is one of the desired outcomes. Chronic disease management to keep patients with chronic illness out of the hospital is another.

There is increasing recognition that social determinants of health, such as access to nutritious food, counselling support, and social resources all influence longevity and quality of life, as well as the need for inpatient admissions. Medical care is estimated to determine 10% to 20% of health outcomes, and the social determinants of health account for 80% to 90% of health outcomes.³³

Digital strategies are becoming more available to address unmet social and health-related needs. Using digitally connected care networks, staff can identify patient’s social needs, share referrals with patients and caregivers, and connect with community-based partners. Implementation of advanced technology and information services across the care continuum enables an enhanced approach to address the whole health of a patient, as well as population health management.³⁴

Critical Access Hospitals and Rural Hospitals

A Critical Access Hospital (CAH) is a designation given to eligible rural hospitals by the Centers for Medicare & Medicaid Services (CMS). CAHs account for 53.5% of all rural hospitals and rural hospitals represent more than half of all hospitals in the U.S.³⁵
³⁶ The CAH designation is designed to decrease the financial vulnerability of rural hospitals and increase access to health care by keeping essential services in rural

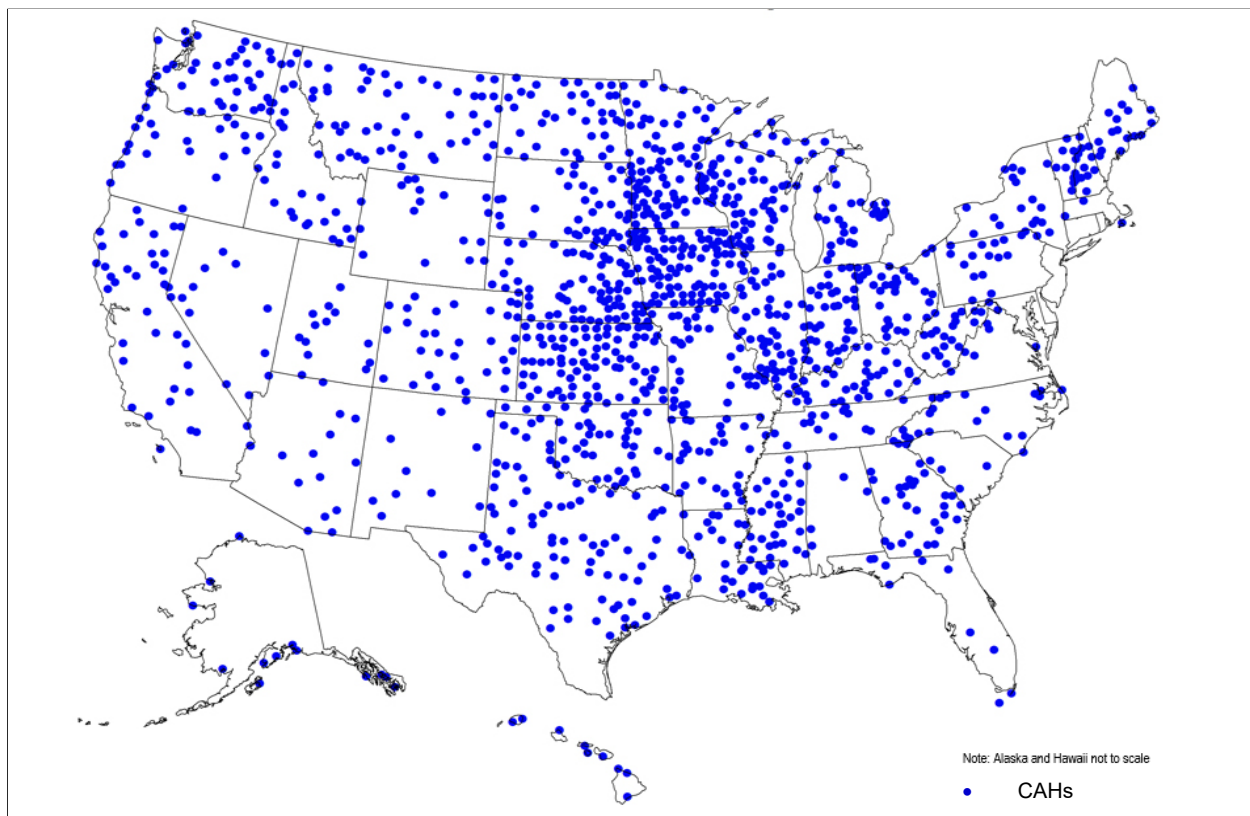


communities. To accomplish this goal, CAHs receive certain benefits, such as cost-based reimbursement for Medicare services. Eligible hospitals must meet the following conditions for CAH designation ³⁵:

- Have 25 or fewer acute care inpatient beds;
- Be located more than 35 miles from another hospital;
- Maintain an annual ALOS of 96 hours or less for acute care patients; and
- Provide 24/7 emergency care services.

As of July 19, 2019, there were 1,350 CAHs located throughout the U.S. ³⁵ The following map (Figure 4) shows CAHs across the U.S. as of January 2021.

Figure 4: *Critical Access Hospitals in the United States*



Source: Data.HRS.gov. U.S. Department of Health and Human Services, January 2021

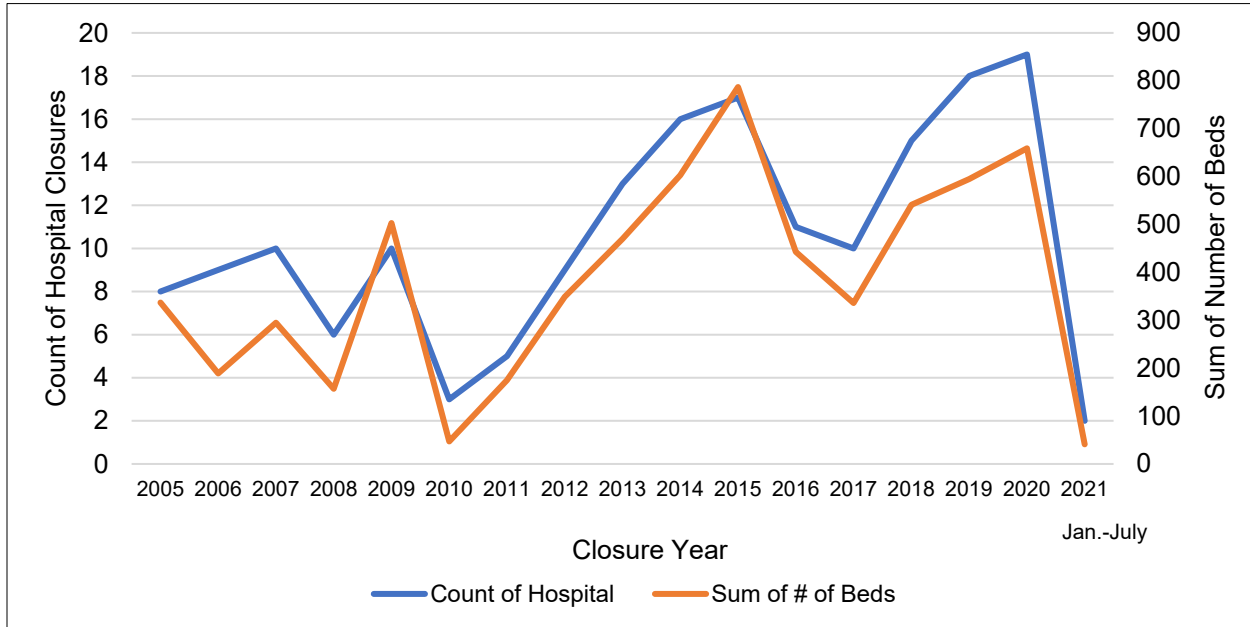
A significant trend for rural hospitals, including CAHs, is the rate of hospital closures (see Figure 5). There have been 181 rural hospital closures in the U.S. since 2005 and 138 of them have closed since 2010. Of the 181 rural hospitals that have closed:

- 65 were CAHs;
- 102 (including CAHs) had 25 or less beds;
- 6 had 100 or more beds;
- 98 facilities closed completely and no longer offer health care service; and



- 83 no longer offer inpatient services yet continue to provide some health care services.

Figure 5: Rural Hospital Closures and Number of Beds by Year, 2005-2021



Source: Cecil G. Sheps Center for Health Services Research, The University of North Carolina at Chapel Hill

A variety of issues put rural hospitals in a fragile position. Low patient volume and heavy reliance on government payers are among the challenges rural health care organizations have faced for years. Newer challenges, such as the shift from inpatient to outpatient care, increased regulatory requirements, and the high cost of pharmaceutical drugs also threaten the ability to maintain access to health care services in rural settings.³⁷

Refer to the MAHSO Rural Health National Planning Strategy for more information.

Rise of the Micro Hospital Model

Micro hospitals have emerged as an alternative for health systems to expand their services and create a presence for their health system in areas where they have gaps in commercial markets and where there is not enough demand to support a full-service acute care hospital. 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 commercial markets to increase their referral base. While there are several different levels of micro hospitals, the common characteristics that define a micro hospital are basic level emergency care and inpatient services with supporting ancillary services (minimal imaging, pharmacy, and laboratory), and on-site primary care services.³⁸ While a CAH can have up to 25 beds, a micro hospital typically has between eight and ten beds and has an established referral partnership with a nearby tertiary hospital for patients requiring a higher-level of care.³⁹ Micro hospitals are usually newly



constructed facilities and could have the potential to help vulnerable communities lack access to care.

Micro hospitals are further discussed in the Rural Health National Planning Strategy.

Rise of the Hospital within a Hospital Model

A low-cost alternative to enlarging a health care system's footprint is Hospital within a Hospital (HwH). A HwH is a hospital that operates in the same building as its host hospital. The HwH leases space from a host hospital on the same campus or in the same building and may share space, staff, and/or services. This arrangement is sometimes referred to as co-location. The benefit of HwH to patients is that they are cared for by providers from their health care system, which increases continuity of care. The benefit to the HwH is that it has access to acute care short stay beds and can admit patients in that location without the overhead of operating an entire hospital. Lease specifics of shared and separate services vary to include or exclude certain shared services and staff. Medical staff are approved by both governing bodies, and appropriately credentialed and privileged by each entity and may "float" between the co-located hospitals.^{40 41}

Increasing Implementation of Acute Care at Home Programs

Programs that provide hospital-level care in a patient's home, as a full substitute for acute hospital care, are being implemented at an increasing rate across the U.S. These care models leverage the latest in remote monitoring technology combined with virtual visits, in-home care, treatment protocols, and well-defined caregiver response processes to provide acute care in the patient's place of residence. Hospitals identify a list of conditions that are eligible for their programs, as well as other criteria that patients must meet to participate. Conditions frequently listed as eligible for these programs include congestive heart failure, pneumonia, asthma, chronic obstructive pulmonary disease, urinary tract infections, cellulitis, dehydration, and COVID-19, among others.

Acute hospital at-home programs have proven to be a means to provide cost-effective care to acutely ill older adults, while increasing patient safety, quality, and satisfaction. When compared to similar hospitalized patients, one hospital at-home program documented the following positive outcomes⁴²:

- Lower rates of mortality, delirium, sedative medication use, and restraints;
- Better satisfaction of patient and family, less caregiver stress, better functional outcomes;
- Cost savings of 19% to 30% compared to traditional inpatient care;
- Lower ALOS;
- Fewer laboratory and diagnostic tests compared with similar patients in acute hospital care; and
- Advanced clinical quality, affordability, and exceptional patient experience.



Other programs that provide acute care at home have documented similar outcomes.⁴³

The recent increasing numbers of these programs is a result of the CMS Hospital Without Walls initiative, which was launched in March 2020 as a part of a comprehensive effort to increase hospital capacity, maximize resources, and combat COVID-19 to keep Americans safe.⁴⁴ In November 2021, CMS expanded this effort by executing an innovative Acute Hospital Care At Home Program, providing eligible hospitals with unprecedented regulatory flexibilities to treat eligible patients in locations beyond the walls of the traditional hospital setting.⁴⁴ As of April 5, 2021, 116 hospitals in 29 states were included on the CMS Acute Hospital Care at Home Program Approved List of Hospitals.⁴⁵

The concept of providing acute hospital level care at home is not new and several studies conducted over more than two decades have proven the positive outcomes of these care models.⁴⁶ However, the adoption of acute care at-home programs was slow until the COVID-19 pandemic hit in 2020. The recent surge in acute care at home program implementation has contributing factors beyond the pandemic and CMS waiver, including, the shift to value-based care reimbursement models, advances in technology, and changing consumer expectations.

Trends in Department of Defense Inpatient Facilities

DoD administers a statutory health entitlement (55 U.S.C. § 10) through Military Health System (MHS).⁴⁷ MHS offers health care benefits and services through its TRICARE program to approximately 9.6 million beneficiaries composed of servicemembers, military retirees, and family members.⁴⁸ Health care services are available through DoD-operated hospitals and clinics, or through civilian health care providers participating in the TRICARE program. The principal mission of MHS is “maintaining a medically ready fighting force, and a ready medical system that is prepared to respond to the full spectrum of military operations”.⁴⁸

Since the 1980s MHS has been “right-sizing” its Military Treatment Facilities. This is part of planned reductions of inpatient capacity. Some of these changes are designed to convert inpatient facilities to ambulatory care facilities and is driven by the realization that smaller Military Treatment Facilities do not have enough volume to sustain inpatient services. These low volumes lead to economic unviability and compromise provider competency leading to the need for MHS to partner with other providers to create a sustainable health care system.⁴⁹

Changes in Eligibility Requirements within the Military Health System

Refinement and clarification of mission responsibilities of the MHS have occurred under the reorganization of the Defense Health Agency (DHA) that include an increased focus on military readiness, which may decrease coverage of retirees as well as active duty beneficiaries.⁵⁰ VA has collaborative relationships of varying degrees with DHA at numerous sites, ranging from referrals with DHA providers to facility partnerships for



clinical care for Veterans. Eligibility and coverage changes instituted by DHA may affect care delivery for Veterans.

Inpatient Industry Challenges

Provider and Nursing Shortages

The American Association of Medical Colleges predicts a shortage of up to 122,000 physicians by 2032, with a concurrent increase in the over-65 physician population by 48% during the same time period.⁵¹

Residency is post-graduate medical training and is a stage of GME. Residents are physicians that practice in clinical settings under the supervision of senior attending physicians that are registered in a specialty. While U.S. medical school enrollment has increased by 52% since 2002, the number of residency slots has increased only 1% per year.⁵² The Federal government is the primary funding source for GME. Funding comes through Medicare (estimated 63%), Medicaid (estimated 25%), VHA (estimated 9%), and the Health Resources and Services Administration (estimated 3%).⁵³ The amount of funding from DoD, states, and private entities of residencies is not available and may be significant. In December 2020, Congress added 1,000 new Medicare-supported GME positions, 200 per year for five years, targeted at priority communities including rural, urban, and other teaching hospitals nationwide, ending a nearly 25-year freeze on Federal support of GME.⁵⁴ Averting a physician shortage now depends on the availability of more residency training slots.

There are also nursing shortages. The number of registered nurse positions is projected to increase 7% from between 2019 and 2029, which is faster than the average for all occupations.⁵⁵ The increased demand coupled with the aging nursing workforce and nurses leaving the profession is contributing to the shortage. Nursing schools are experiencing limitations on budget, faculty, staff, and other resources. Clinical sites for training are also scarce, with nursing students struggling to find the practical experience required in hospital settings to meet clinical requirements for graduation.⁵⁶ The VHA provides training programs as well as clinical rotations for nursing students across the country.

Shift to Value-Based Care Reimbursement Models

Value-based reimbursement models tie payments for care delivery to the quality of care provided and rewards providers for both efficiency and effectiveness. This form of reimbursement has emerged as an alternative and potential replacement for fee-for-service reimbursement, which pays providers retrospectively for services delivered based on billed charges or agreed upon fee schedules. CMS has introduced an array of value-based care models, such as the Medicare Shared Savings Program and Pioneer Accountable Care Organization Model. Private payers have in turn adopted similar models of accountable, value-based care. “The value is derived from considering health outcomes against the cost of delivering the outcomes.”³⁴ Value-based reimbursement models are intended to drive better outcomes at a decreased cost. Currently, many



health care providers are challenged with navigating a payer landscape that includes both fee-for-service and value-based payers.

Rapidly Advancing Technology

Health care organizations are inundated with decisions related to the investment, application, integration, and use of emerging technology. While new technologies can increase the quality and safety of medical care, some can be ineffective and inefficient. Consideration must be given to the technology's interoperability and effect on clinical workflows.⁵⁷ New technology that initially decreases costs, may ultimately increase costs overall.⁵⁸ Introducing new health technologies in a safe, effective, and efficient manner is a complex process, involving many disciplines and stakeholders, and requires a systematic and transparent approach.⁵⁹

Inpatient Key Metrics

Quality and Safety Metrics

Health care systems need timely and accurate data to evaluate the performance of acute inpatient services and to inform decision making and planning. Many of these metrics are reported publicly and/or to payer and accreditation organizations. CMS uses seven groupings of outcome measures to calculate hospital quality and these measures are the most used in commercial health care today. CMS grouped outcome measures into seven categories weighted by importance⁶⁰:

- Mortality (22%)
- Safety of care (22%)
- Readmissions (22%)
- Patient experience (22%)
- Effectiveness of care (4%)
- Timeliness of care (4%)
- Efficient use of medical imaging (4%)

The Agency for Healthcare Research and Quality Indicators, which are standardized measures of health care quality, comprise four areas of measurement: inpatient, prevention, patient safety, and pediatric care.⁶¹ The measures were originally developed for several purposes, including increasing quality, pay-for-performance, and public health monitoring.

The Joint Commission (TJC) is the nation's largest standards-setting and accrediting body in health care. TJC identifies a set of National Patient Safety Goals each year. Hospitals receiving TJC accreditation are held accountable to these safety goals. The following are the 2021 National Patient Safety Goals⁶²:

- Identify patients correctly
- Improve staff communication



- Use medicines safely
- Use alarms safely
- Prevent infection
- Identify patient safety risks
- Prevent mistakes in surgery

Efficiency and Throughput Metrics

The push to decrease the cost of inpatient encounters has led to a focus on efficiency and throughput metrics. Three of the top 10 essential hospital metrics identified by Definitive Healthcare are related directly to efficiency and patient throughput. These metrics include ⁶³:

- Length of stay
- Bed utilization rate
- Average cost per discharge

Emergency Department Introduction

EDs are an important part of the provision of comprehensive care and EDs have traditionally been connected to acute care inpatient facilities. In 2015, there were over 5,200 EDs nationally and in 2017, there were between 550 and 600 freestanding emergency departments nationally. ^{64 65} For additional context, Table 14 shows the number of facilities with and without EDs by hospital type.

Table 14: Hospital Based ED Programs

Hospital Type	Number of Facilities with ED	Number of Facilities without ED
Acute Care - DoD	32	3
Acute Care Hospitals	2,975	315
Children’s	53	42
Critical Access	1,325	30
Psychiatric	89	518
Total	4,474	908

Source: Centers for Medicare & Medicaid Services - Hospital General Information dataset. March 25, 2021.

Emergency Department Commercial Trends

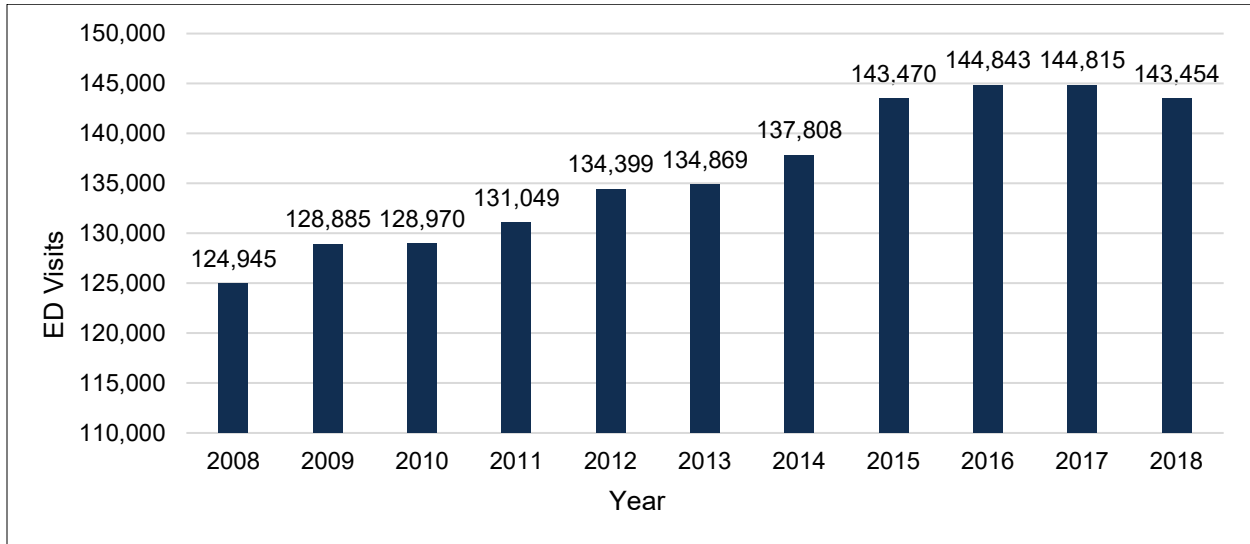
Increase in Emergency Department Utilization

ED utilization in the U.S. has been increasing since World War II. One study found that EDs contributed an average of 47.7% of hospital-associated care delivered in the U.S.



between 1996 and 2010.²⁹ The Centers for Disease Control and Prevention reports a gradual increase in the volume of ED visits starting in the 1990s.⁶⁶ Health Care Cost and Utilization Project data shows that between 2006 and 2015 the rate of ED visits continued to increase nationally, while the proportion of ED visits that resulted in a hospital admission decreased.⁶⁶ More recent data shows that the high ED visit volumes have continued through 2018 (see Figure 6).

Figure 6: ED Visits by Year, 2008-2018

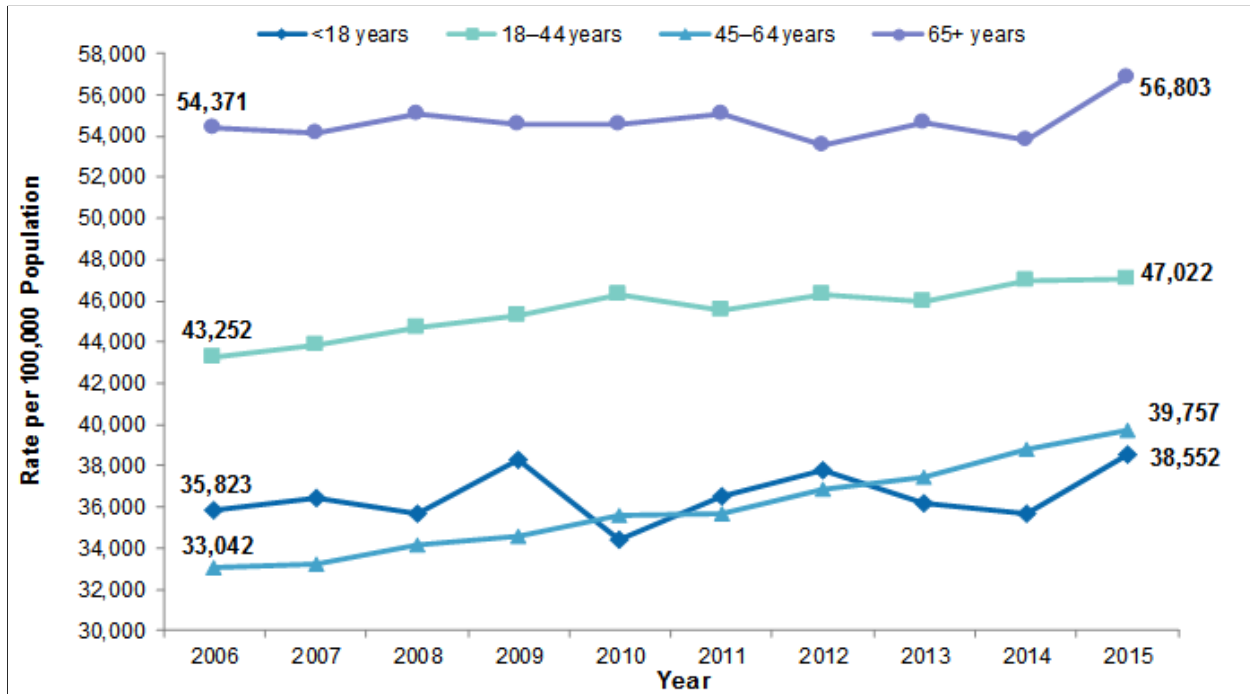


Source: AHRQ – Healthcare Cost and Utilization Project, National Trends in Emergency Department Visits, 2008-2018. January 2021.

As shown in Figure 7, the rate of ED visits across all ages groups reached a 10-year high in 2015.⁶⁷ Each year between 2006 and 2015, older patients had the highest ED visit rate, compared to other age groups.⁶⁷



Figure 7: Rate of ED visits, per 100,000 Population by Age Group, 2006-2015



Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization, and Markets. Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2006-2015.

ED Patient Acuity Trends

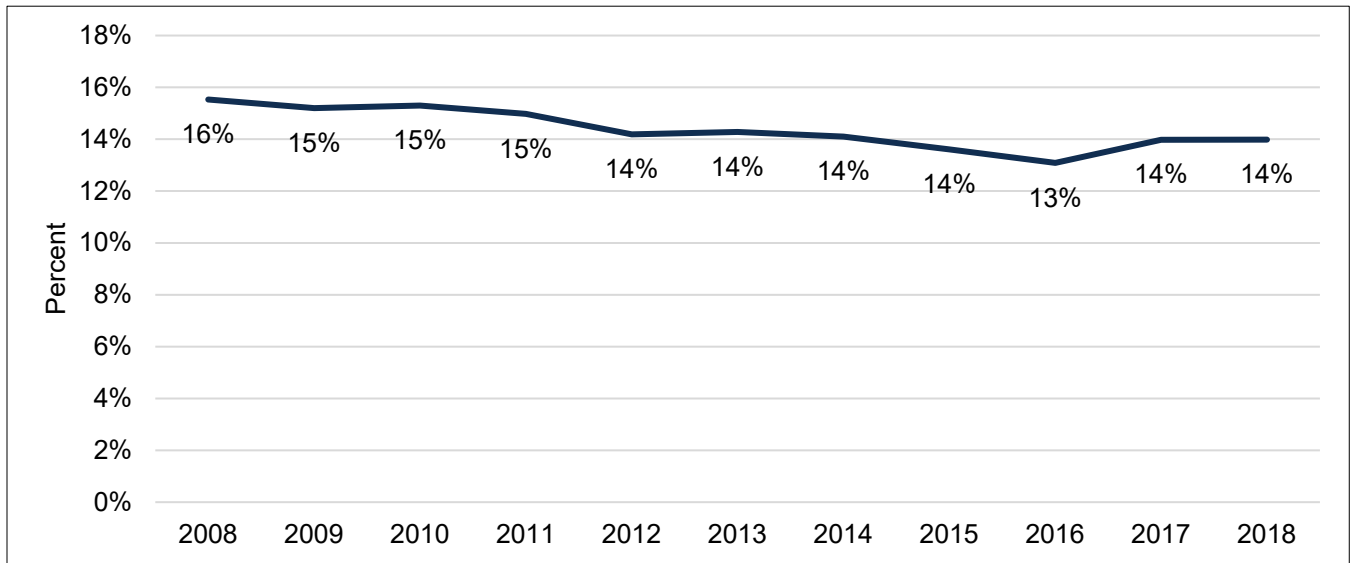
EDs are seeing older, sicker patients.⁶⁸ Between 2007 and 2016, the age of the patients seen in EDs, as well as the severity of illness increased.⁶⁸ The accessibility of retail clinics, telehealth, and other sources of non-emergent care has contributed to an increase in the severity and complexity of patients seen in full-service EDs.⁶⁹ Additionally, patients that lack adequate insurance coverage or have limited access to primary care frequently rely on EDs for chronic disease management as well as other care that is more appropriately delivered in a primary care setting.⁶⁶ Visits associated with mental health/substance use disorder diagnoses increased between 2009 and 2015, likely related to the opioid epidemic.⁷⁰

During the COVID-19 pandemic, overall outpatient ED visits decreased from mid-March 2020 to August 2020, particularly for non-medically urgent conditions which can be treated in other care settings.⁷¹ The long-term effects of the COVID-19 pandemic on ED volumes is yet to be determined.

ED Serving as Primary Source of Inpatient Admissions

The ED remains the dominant source of hospital admissions in the U.S. with approximately 70% of hospital inpatients processed through the ED.⁷² Assessments indicate that 14% to 16% of ED visits result in an inpatient admission (see Figure 8).

Figure 8: Percent ED Visits by Year Resulting in Hospital Admission, 2008-2018



Source: Agency for Healthcare Research and Quality – Healthcare Cost and Utilization Project. April 2021.

Freestanding Emergency Departments

Freestanding Emergency Departments (FSEDs) are licensed facilities that are structurally separate and distinct from a hospital and provide emergency care.⁷³ The two types of FSEDs are a hospital outpatient department, also referred to as an off-site hospital-based or satellite emergency department, and an independent FSED.⁷³ There is an increase in the number of FSEDs within the evolving regulatory and health care environment.⁷³ FSEDs, like UCCs, are generally convenient, community-based alternatives to hospital-based EDs. The primary differences between FSEDs and UCCs include operating hours, staffing, and immediately available resources. FSEDs are open 24/7, are staffed with physicians, and have imaging and laboratory resources to diagnose and treat severe and life-threatening situations.

Many individuals propose that FSEDs can help alleviate the stress our current emergency care system faces and provide care to people with limited access to traditional hospital based EDs. FSEDs provide care that is often indistinguishable in quality and cost to that of hospital based EDs. FSEDs often serve a more affluent patient base that already has access to health care versus that of expanding care to underserved areas.⁷⁴

Research indicates that in 2019 the U.S. FSEDs commercial market size was valued at approximately \$3 billion and is projected to expand.⁷⁵ The FSED commercial market is driven by overcrowding of hospital based EDs, an increasing number of patients opting for immediate treatment options, and evolving health care options.⁷⁵



Emergency Department Industry Challenges

ED Overcrowding

EDs across the country face issues with capacity limitations and overcrowding driven in part by a decrease in available inpatient beds, decreasing reimbursements, increased ED use, the aging population, and increases in the number of acutely ill patients.⁷⁶ EDs are challenged to decrease length of stay, increase patient throughput, and recruit and retain qualified staff. Technology continues to enhance diagnostic and treatment procedures, but many electronic medical records have not increased efficiency and have added time to the patient-doctor encounter.⁷⁷

The requirement that hospital EDs provide emergency health care service for people regardless of their ability to pay is also an ongoing challenge. These patients are frequently complex and utilize the ED as their primary care option. Further, the ED is sometimes perceived as the only access point to health care services for many people.⁷⁸

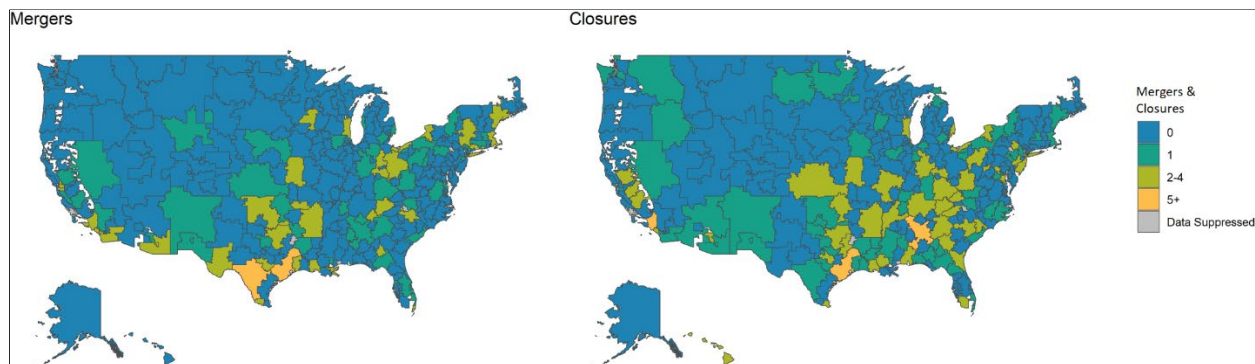
ED Throughput and Efficiency

Optimizing throughput is a priority for many EDs struggling with overcrowding and long wait times. Throughput inefficiencies that lead to overcrowding are associated with poor patient outcomes including increased patient mortality and morbidity, medical errors, delayed and missed treatments, decreased patient satisfaction, and increased rates of patients leaving without being seen.⁷⁹

ED Openings and Closures

The hospital-based ED closures and mergers across the U.S are illustrated in Figure 9. The total number of hospital-based EDs decreased from 4,500 in 2005 to 4,460 in 2015, with 200 closures, 138 mergers, and 160 new hospital-based EDs. During this time, the average yearly ED visits per hospital-based ED increased by 28.6%, while inpatient bed capacity remained stagnant.⁸⁰

Figure 9: *Hospital-based ED Closures and Mergers Nationwide: 2005-2014*



Source: Venkatesh AK, Janke A, Rothenberg C, Chan E, Becher RD (2021). National trends in emergency department closures, mergers, and utilization, 2005-2015.



Emergency Department Key Metrics

EDs track, trend, and report operational and quality metrics to evaluate performance and inform decision making, and planning. Regulatory and accrediting agencies like CMS and TJC require reporting on specific metrics and many of those metrics are available on public-facing websites like Care Compare.⁸¹

While ED metrics have historically focused on clinical processes (time to pain management, time to fibrinolytic therapy), throughput measures (door-to-diagnosis, left without being seen) are now being added as key process indicators.⁸¹ Examples of key metrics commonly used in the ED include:

- Time from door to diagnostic evaluation;
- Time from ED arrival to ED departure;
- Time from admit decision time to time of departure for admitted patients;
- Patient left before being seen;
- Time from arrival to troponin results;
- Time from arrival to pain management;
- Fibrinolytic therapy received within 30 minutes of ED arrival;
- Time to electroencephalogram;
- Patient satisfaction;
- Rate of complications; and
- Unplanned return to ED.

Many EDs track and address some of these key process indicators daily to drive better performance. EDs are also communicating some metrics, like estimated wait times, to the public as part of their marketing strategy, utilizing billboards, websites, and smart phone applications. Others publicize their wait times to manage arrivals among multiple EDs within a defined geographic area.⁸²

Urgent Care Center Introduction

UCCs are convenient, on-demand care alternatives that range from simple walk-in retail clinics with minimal ancillary support services to a large, complex facilities with on-site lab and imaging support. UCCs are designed to treat low-acuity conditions and injuries.⁸³ UCCs are generally staffed by primary care physicians and/or mid-level providers.

UCCs fill a gap for patients whose conditions do not require an ED visit. UCCs generally serve two types of patients, those without a primary care physician and those who have a primary care physician and are unable to schedule a timely appointment and serve as alternatives to the emergency room.⁸³ Due to the current primary care provider shortage in the U.S., the demand for and use of UCCs has increased.⁸⁴



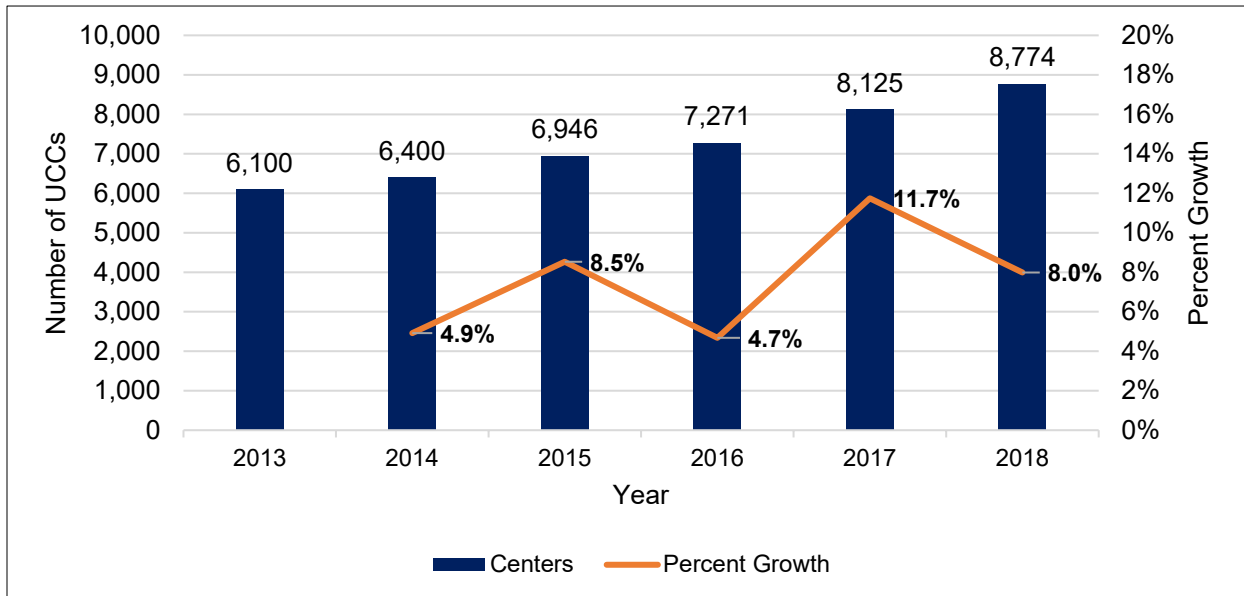
The Urgent Care Association (UCA) indicates that by 2018 there were more than 9,000 UCCs in the U.S., collectively experiencing over 112 million visits annually. In comparison, there were approximately 4,000 EDs that experienced roughly 145 million annual visits.⁸⁵

Urgent Care Center Commercial Trends

Rapid Increase of UCCs

The number and use of UCCs continues to rise (see Figure 10). An analysis of UCC visits for patients under the age of 65 showed an increase of 119% between 2008 and 2015 and a 214% increase in visits to retail clinics, compared to a 36% decrease in visits to the ED.⁷⁰

Figure 10: Year Over Year Increase of Urgent Care Centers, 2013-2018



Source: Urgent Care Association. November 2019.

A 2016 study by a large Texas private insurer found significant variance in average price per visit between hospital based EDs (\$2,259 average price per visit in 2015) and UCCs (\$168 average price per visit in 2015). The price per visit for patients with the same diagnosis were, on average, almost 10 times more at EDs than at UCCs.⁸⁶

Demand for Convenience

The demand for convenient care continues to escalate, especially among younger cohorts. A 2019 survey found that nearly one-quarter of millennials do not have a primary care physician (PCP). Twenty-four percent of millennials said they have gone five years or more without an annual physical and about one-third indicate the reason as it is not convenient. Younger patients are opting for convenient medical care and walk-in services.⁸⁷



Urgent Care Center Industry Challenges

Lack of Standard Quality Metrics

EDs use commonly agreed upon measures for quality while UCCs do not systematically track metrics or patient outcomes.⁸⁸ The UCA acknowledges that the existing measures developed for the ambulatory care setting or hospital setting do not easily apply to UCCs. Nearly half of UCCs use quality measures that they have developed themselves, and 16.5% do not measure the quality of the care they provide.⁸⁸ UCCs would benefit from developing nationally recognized clinical quality metrics specific to urgent care.

Recruiting and Retaining Clinical Staff

There is clear evidence of a significant impending primary care physician shortage. The supply is not keeping up with the continually increasing demand as more Americans acquire insurance. UCCs are also affected by the shortage of Internal Medicine and Family Medicine physicians across the country.⁸⁹ Many UCCs are having a difficult time recruiting qualified physicians and rely on mid-level providers for staffing. The shortages of health care professionals present a challenge to the success of UCCs as they increase in popularity and struggle to staff the clinics.⁹⁰

UCC Landscape

Health care systems are adding urgent care to their service offerings, insurance companies and medical groups are acquiring UCCs, and large UCC organizations are merging with smaller groups.⁹¹

Patients' preference for convenience are changing and so are the services they want and need. UCCs have evolved to offer more than just immediate care. The need for diversified services is driving these clinics to offer services for non-acute and continuing care needs. UCCs are functioning as primary care for many patients.⁹¹

While high visit volumes and profitability have led to oversaturation of UCCs in the urban setting, there is lower availability in the rural and semi-rural communities.⁹² Maintaining contracts with insurance companies is important to the success of independent UCCs that may be challenged to compete with large health care systems that have presence in the community.⁹²



3. Leading Practices

Identifying leading practices in Inpatient Medicine, EDs, and UCCs, both inside and outside of VA, can help VA inform a successful National Planning Strategy for Inpatient Medicine, EDs, and UCCs. Establishing a framework of best practices and structured approaches to inpatient, emergency, and urgent care, which includes the development of minimum viable programs, will ensure that current facilities and future facilities are built to meet demand.

3.1 Leading Practices Analysis

Inpatient Medicine

Clinical Quality and Safety

TJC is an independent not-for-profit entity that “seeks to continuously enhance health care for the public, in collaboration with other stakeholders, by evaluating health care organizations and inspiring them to excel in providing safe and effective care of the highest quality and value.”⁹³ TJC is the nation's largest standards-setting and accrediting body in health care. TJC identifies a set of National Patient Safety Goals each year. Hospitals across the nation are held accountable to address these safety initiatives as well as emerging best practices. See section 2.3 under Inpatient Key Metrics, Quality and Safety metrics for more information related to TJC National Patient Safety Goals.

Best practices also frequently emerge from measures that are required to be reported publicly. CMS publicly reports hospital quality performance information on the Care Compare website, driving hospitals to achieve best practice related to the measure reported.

Technology and Innovations in Care Delivery

Smart Hospitals

Smart hospital rooms focus on how technology can streamline the patient experience, increase communication, and improve clinical workflows. Keeping the patient at the forefront and assuring that providers have consistent and strong patient interface are key when adding in-room technology. Adding advanced technology into the patient-provider relationship could be a path to less face-to-face interaction, however, the technology has been a value-added addition to the relationship. With added automation, the use of human capital increases the interaction between the patient and providers as they work at the patient's bedside.⁹⁴

Advanced technology begins outside the hospital room with digital signage, such as tablets, which are connected to the electronic health record system and display vital patient information and protocols, as well as controlling access to the room. In the room,



the patient, via a tablet, can control in room operations such as lights, temperature, and television, as well as access their patient portal, medical educational materials, discharge goals, and post discharge care instructions. Further, in-room technology via the television increases face-to-face patient care as providers and care givers can review data, place orders while talking to, and interacting with the patient. “It’s about utilizing technology in a fashion to better educate and integrate the clinical care side of things.”⁹⁴

Tele-ICU

Tele-ICU or eICU continues to evolve to provide support to traditional intensive care units (ICU) through additional monitoring and access to physicians and nurses from a remote location, using technology to assess patients and communicate with staff at the bedside. Tele-ICU has shown in numerous studies that clinical outcomes can be bettered with its use including⁹⁵:

- Decreased mortality rate;
- Safe decrease in ALOS;
- Collaborative review of patients’ health crisis with other providers at bedside;
- Immediate provider availability 24/7; and
- Data collection for trends and treatments across hospital systems.

Contributing factors in tele-ICU increases include physician shortages, aging population requiring a higher demand for acute care services, pandemic protection of providers, physician burnout, adoption of increased use of technology in health care delivery, and ability to provide immediate and supplemental support to ICU physicians and staff that are physically present in the ICU.⁹⁶

Hospital in Home Model

Programs that provide hospital-level care in a patient’s home, as a substitute for acute hospital care, are being implemented at an increasing rate across the U.S. For more information on acute-care at home trends, refer to section 2.3 under Inpatient Commercial Trends, Increased implementation of Acute-Care at Home Programs.

VA has had an established Hospital in Home Program for years. This program offers intensive time limited home-care to Veterans with specified acute and/or complex medical conditions such as congestive heart failure, chronic obstructive pulmonary disease, community acquired pneumonia, cellulitis or other specified conditions amenable to safe and effective management in the home setting, with the goal of decreasing hospital admissions, decreasing hospital length of stay by allowing patients to be discharged earlier from the hospital, decreasing the likelihood of readmissions, and decreasing the risk of adverse events.⁹⁷



VA Hospital in Home provides an avenue for patients still requiring acute care services to be discharged home early and by breaking the cycle of admissions from the ED that are significant sources of admissions (inside and outside VA). ⁹⁷

Shifting Environment of Care Delivery

The ongoing shift from inpatient to outpatient and alternative care settings is largely driven by emerging value-based care reimbursement models, rising costs, and advances in technology. Patients are now seeing the benefits of shifting care out of the hospital environment, which includes ⁹⁸:

- Cost savings for purchasers;
- Reduced out-of-pocket costs for patients;
- Increased patient access, convenience;
- Greater hospital capacity for higher-acuity services; and
- Avoided risks of COVID-19 exposure.



Source: Advisory Board

Emergency Department

Best Practices

ED Management

The ED may be a patient’s first experience with the hospital and implementing best practices can ensure a positive experience for the patient, providers, hospital, and care received. Best practices include ⁹⁹:

- Cost-effective strategies – Implementing a multi-level triage process can improve patient flow, decrease physician-to-physician handoff time, and improve patient experience and satisfaction.
- Effective communication – Communication between shift changes and post-discharge can manage patient risk and improve compliance.
- Strong risk management program – Using evidence-based medicine can decrease potential malpractice suits and improve hospital image in the community.
- Strong leadership – The ED medical director can have a direct effect on staff morale, medical staff participation, patient satisfaction, compliance, and patient throughput.
- Physician professional development – Developing physicians can improve long-term success of the ED and physician retention.
- Good relationships with emergency medical services – This can increase volume and revenue.



Patient Experience

The patient experience plays a key role in quality perception and directly correlates with patient compliance, increased staff satisfaction, reduction in patient complaints and malpractice suits, and increased patient volume and revenue.¹⁰⁰ The top 10 patient experience improvement opportunities are¹⁰⁰:

- Create a culture of service;
- Emphasize the importance of empathy and attitude;
- Consider the patient's perception;
- Improve the quality and frequency of communication;
- Enhance the ED environment;
- Decrease waste and waiting time whenever possible;
- Provide timely pain management;
- Practice hourly rounding;
- Start a patient callback program; and
- Solicit regular feedback, and act on it.

Triage

Triage is utilized in the ED to categorize and prioritize patients for treatment depending on the presentation of severity of their injury or illness. The focus on increasing the effectiveness and efficiency of the triage process drives:

- Care being received in the most appropriate time;¹⁰¹
- Decreased adverse events in ED with an accurate triage decision;¹⁰¹
- Increased quality of emergency services provided; and¹⁰¹
- Increased patient safety in the ED.¹⁰²

Although multiple effective triage processes exist, EDs choose appropriate processes based upon the size, resources, and patient population in the ED.

Patient Throughput

Efficient patient flow in the ED ensures patients receive safe, timely, quality care, and have positive experiences.¹⁰³ If patient flow is hindering ED throughput (arrival to disposition), patient wait times increase and quality may be compromised. Strategies that can be undertaken in the ED to increase patient throughput include:¹⁰⁴

- Staffing an ED provider in the triage area;
- Adjustments to ED registered nurse staffing;
- Ensuring open beds are filled;
- Increasing timeliness of treatment when bed space is lacking; and
- Opening additional treatment locations during surges in patient volumes.



Further, there are strategies that can be undertaken from an inpatient perspective to increase ED throughput which include: ¹⁰⁴

- Ensuring timeliness of inpatient discharges;
- Ensuring room turnover; and
- Proactively manage hospital occupancy.

Finally, good communication and cooperation between inpatient and ED staff is key to facilitating throughput in the ED.

Case Management and Social Services in the ED

“Social work in the ED revolves around a patient-centered approach to care that considers psychosocial aspects that impact the patient’s health and behavior.” ¹⁰⁵ When the concept of case management and social services was introduced into the ED it was due to financial and length of stay limits placed upon hospitals by insurance companies. However, the concept rapidly evolved into a study of patient disposition and the appropriateness of where care could be effectively and safely delivered for patients whose medical conditions did not require hospitalization. ED case managers or social workers refer patients to home health agencies, outpatient or inpatient rehabilitation for substance abuse, food pantries, homeless shelters, and domestic violence shelters. Utilizing case managers and social workers in the ED allows providers (physicians, nurses, and clinical staff) to focus their time on patient medical care and prioritizing resources for medical treatment.

The value of the presence of social work in EDs is supported by a study that analyzed hospitalization rates of patients seen by social workers in an ED at a large teaching hospital in New York City. The data on this indicates that the majority of social work dispositions were to home (54%) or a nursing facility (8.4%) with 16% of the patients seen by social work admitted to the hospital. ¹⁰⁶ These findings support the cost-effectiveness of social work in the ED and the importance of finding alternatives to hospital admissions.

Urgent Care Center

Best Practices

Operational Efficiency

Best practices for operational efficiency and effectiveness in the UCC include:

- Optimizing provider to assistant ratios;
- Implementing organized information management system;
- Understanding of state and local laws and regulations;
- Availability of appropriate on-site diagnostic equipment for patient population;
- Site specific emergency management plan; and



- Multiple exams rooms. ¹⁰⁷

Care Transition

There is a frequent need for patient transition in a UCC. TJC, through studying patient discharge instructions, developed eight best practices for safe care transition in the UCC and they are:

- Ask patients for the name of their PCP;
- Ask patients for the name of their home care provider;
- Send summary clinical information to the PCP upon visit completion;
- Send summary clinical information to the home care provider upon visit completion;
- Send summary clinical information to the ED physician upon patient referral;
- Perform modified medication reconciliation upon visit completion;
- Provide patient with effective education upon visit completion; and
- Provide patient with written discharge instructions upon visit completion. ¹⁰⁸

Quality

UCCs would benefit from developing nationally recognized clinical quality metrics specific to urgent care. “The existing ‘system’ or measuring clinical quality in UCC needs an overhaul. It is fragmented and underdeveloped, and lacks infrastructure required for data aggregation and analysis at a national level, which is necessary before true progress in quality improvement can be expected.” ⁸⁸

“The existing ‘system’ for measuring clinical quality in UCC needs an overhaul. It is fragmented and underdeveloped, and lacks infrastructure required for data aggregation and analysis at a national level, which is necessary before true progress in quality improvement can be expected.” ⁸⁸

A list of national quality metrics (see below) incorporating the six domains of quality identified by the Institute of Medicine has been proposed on the UCA website by a member physician^{88 109}:

- Appropriate use of electrocardiogram in patients greater than 35 years of age who present with a chief complaint of chest pain;
- Appropriate use of pregnancy testing in patients between the age of 12 and 55 with a chief complaint of abdominal pain;
- Inappropriate use of oral antibiotics in adult (greater than 18 years old) and pediatric (less than 18 years old) patients;
- Inappropriate use of oral steroids in adult (over 18) and pediatric (under 18) patients
- Percent of patients who leave UCCs with unaddressed abnormal vital signs;
- Patient satisfaction measures;
- Rate of patients whose care plan is communicated back to their PCP;



- Rate of eligible patients who receive smoking-cessation counseling;
- Rate of eligible patients who receive obesity counseling;
- Rate of ED transfers from the UCC to the ED;
- Rate of patients seen in UCCs who present to an ED within 72-hours of urgent care;
- Rate of imaging misreads that result in a change in management;
- Appropriate use of urine cultures in patients with urinary tract infection;
- Appropriate use of throat cultures in patients with acute pharyngitis;
- Appropriate use of imaging studies in selected conditions (for example: asthma, low back pain, knee, and ankle injury);
- Percent of patients seen within 30 minutes of arrival to UCC;
- Percent of patients discharged within 60 minutes of arrival;
- Rate of analgesic prescriptions by race/ethnicity/socio-economic status;
- Rate of seasonal flu vaccine by race/ethnicity/socio-economic status; and
- Percent of patients with chronic disease (hypertension, diabetes, chronic obstructive pulmonary disease, congestive heart failure) who have a PCP by race /ethnicity/socio-economic status.

The UCA currently offers certification and accreditation. UCA certification is an endorsement that a UCC meets standardized criteria. It serves as a designation to the public and insurance companies that the center meets UCA criteria for access and offered services.

Staffing

UCCs are staffed with physicians and/or advanced practice providers, depending on state regulations and chosen staffing model. A survey of industry professionals reported that 63% of UCCs prefer the hybrid staffing model, with a minimum ratio of four to one advanced practice provider-to physician.¹¹⁰



4. Service Planning Framework

4.1 Program Priorities

The Hospital Medicine Program Mission is “to provide world class, Veteran-centric, team based, high touch inpatient care – whenever and wherever.”¹¹ Realizing this mission into the future requires improving alignment of Inpatient Medicine capacity and capabilities with the evolving needs of Veterans to enable Veterans to access the right high-quality care in the right location.

To create sufficient capacity and access, the planning priorities for Inpatient Medicine include:

- Defining a minimum viable program for acute Inpatient Medicine based on ADC.
- Defining minimum viable programs for Emergency Medicine, which includes EDs and UCCs, based on yearly encounters.
- Aligning Inpatient Medicine bed capacity with VA current and future demand by rightsizing acute care Inpatient Medicine programs.
- Defining the inter-relationship between Inpatient Medicine and Emergency Medicine.

Planning guidelines for Inpatient Medicine are designed to support Veteran access at the facility level within a 60-minute drive time for inpatient medicine services and 30-minute drive time for Emergency Medicine services.

4.2 Geographic Service Area

Inpatient Medicine and Emergency Medicine are facility-level services delivered in VAMCs. Planning, development, and operations of each VAMC’s Inpatient Medicine program and Emergency Medicine program are the domain of local and regional executive leadership with assistance and direction from the VHA Hospital Medicine Program, Emergency Medicine Program, and Office of Nursing Services in concert with academic affiliates.

The current distribution of programs and bed capacity necessitates a planning methodology that ensures access to Inpatient Medicine and Emergency Medicine services in each market and matches capacity with future demand.

The presence of acute Inpatient Medicine and Emergency Medicine services has not historically been driven by enrollees. National Planning Strategies will consider ADC and the enrollee population within a 60-minute drive time of an Inpatient Medicine program when planning for service delivery to different geographies and within a 30-minute drive time of an Emergency Medicine program.



4.3 Planning Guidelines

Planning guidelines seek to inform the market assessment process. The rationale for establishing VA planning guidelines 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 focus on a broad range of access, demand, staffing, quality, and facilities/ environment of care considerations and are meant to help identify areas where the teams should carefully consider measurable performance indicators. The guidelines 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 Inpatient Medicine program.
- **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:** 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 (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.



The primary considerations in planning for the provision of Inpatient Medicine and Emergency Medicine services at VA are optimizing access and quality for enrolled Veterans, both current and projected. Current and projected ADC and annual encounters can be used to identify locations where guidelines are not met that can affect acceptable quality of Inpatient Medicine and Emergency Medicine services, as well as provider proficiency. These guidelines can be used in quadrennial assessments and other planning exercises to guide Inpatient Medicine and Emergency Medicine decisions.

It is understood that the planning guidelines outlined are not intended to serve as absolute and independent metrics in decision-making as applied to the development of high performing integrated delivery networks at VA. Those decisions are anticipated to consider relevant site-specific considerations, stakeholder input, and additional local factors deemed relevant in achieving the overarching goals of increased access and quality of Inpatient Medicine and Emergency Medicine services.

Planning Guidelines Tables

Inpatient Medicine

MAHSO Planning Guidelines	
Service	Inpatient Medicine
Geography	Facility
Prerequisites	All VA Medical Centers with Inpatient Medicine capacity will have an Emergency Department or Urgent Care Center.



Open and Maintain Inpatient Medicine		
Planning Domain	Planning Guidelines	Rationale
Demand	<ul style="list-style-type: none"> Minimum facility 10-year projected ADC ≥ 20 to open-or maintain 34,641 non-overlapping enrollees within a 60-minute drive time of a VA site of care to support target ADC 	<ul style="list-style-type: none"> The minimum inpatient medicine ADC guideline of 20 is based on 80% occupancy of the CMS criteria for CAH bed counts, which states that inpatient beds cannot exceed 25 (25 beds at an 80% occupancy = 20).¹¹¹ Industry standard for med/surg bed occupancy rate is targeted at 80% to support access, operational effectiveness, and operational efficiency. Maintaining adequate volume is necessary to maintain staff skills and competence and well as quality care. Based on VA inpatient utilization, 34,641 non-overlapping enrollees are required to generate an ADC of 20. VA utilization divided by 20 ADC = 34,641 non-overlapping enrollees. (VA inpatient utilization is calculated by dividing total BDOC by non-overlapping enrollees within a 60-minute drive time).
Supply	<ul style="list-style-type: none"> VA Hospitalists and consulting physicians that can support facility current and 10-year projected ADC ≥ 20 Nursing and ancillary staff that can support facility current and 10-year projected ADC ≥ 20 	<ul style="list-style-type: none"> Adequate physician, nursing, and ancillary staff must be available to care for patients and provide safe, high quality, and timely care.
Access	<ul style="list-style-type: none"> All VA Medical Centers with Inpatient Medicine capacity will have either an ED or UCC Location or proposed location is in an enrollee-dense area with ability to capture 34,641 non-overlapping enrollees within a 60-minute drive time (to open) 	<ul style="list-style-type: none"> EDs and UCCs provide access points for admission. Drive time standards are aligned with the MISSION Act.



Open and Maintain Inpatient Medicine		
Planning Domain	Planning Guidelines	Rationale
Quality	<ul style="list-style-type: none"> • Patient Safety and Adverse Events Composite score (PSI 90) of < 1.5 for four consecutive quarters • 30-day readmission rate < 20% for two consecutive quarters 	<ul style="list-style-type: none"> • Based on a review of VA historical performance data, <1.5 PSI 90 was identified as a reasonable rate for VA hospitals. • The standard benchmark used by CMS is a 30-day readmission rate of < 20%. ¹¹² CMS penalizes hospitals with 30-day readmission rates > 20%. ¹¹²
Other	<p>Resize</p> <ul style="list-style-type: none"> • Resize to maintain an average med/surg bed occupancy of 80% <p>Modernize or Replace</p> <ul style="list-style-type: none"> • Modernize or replace if main campus building is older than 40 years (for MAHSO, should not be built before 1980) 	<p>Resize</p> <ul style="list-style-type: none"> • Align capacity and average occupancy to bed demand to facilitate operational efficiency and access. <p>Modernize or Replace</p> <ul style="list-style-type: none"> • Forty years is acknowledged to be the average useful life of a hospital building per the American Hospital Association. Older facilities are challenging to modernize and operate efficiently.

Partner AA / Federal / CCN (Buy) Inpatient Medicine		
Planning Domain	Planning Guideline	Rationale
Demand	<ul style="list-style-type: none"> • VA facility 10-year projected ADC < 20 <ul style="list-style-type: none"> ○ For rural submarkets and rural markets, see Rural Health National Planning Strategy for VA micro hospital partnership planning guidelines ○ Evaluate continued need for VA ED or VA UCC 	<ul style="list-style-type: none"> • Partnering is preferred when unable to maintain at least an ADC of 20. Refer to rationale noted above in this chart under Inpatient Medicine open/maintain, demand. • VHA Directive 1101.05(2) “VA medical facilities with an ED must have inpatient acute medical/surgical beds.” ¹¹³



Partner AA / Federal / CCN (Buy) Inpatient Medicine		
Planning Domain	Planning Guideline	Rationale
Supply	<ul style="list-style-type: none"> • Another VA inpatient acute care facility within 60-minute drive time with capacity to absorb current and projected FY 2029 ADC without exceeding 80% occupancy • The partner facility or combined partner facilities can absorb the current and projected 10-year VA ADC without exceeding 80% occupancy 	<ul style="list-style-type: none"> • Drive time standards are aligned with the MISSION Act. • Adequate bed supply available to accommodate VA inpatient volume without exceeding the 80% occupancy standard for the community.
Access	<ul style="list-style-type: none"> • Target a 60-minute drive time or less from a current VA site of care or within an enrollee dense area 	<ul style="list-style-type: none"> • Drive time standards are aligned with the MISSION Act.
Quality	<ul style="list-style-type: none"> • The partner facilities: <ul style="list-style-type: none"> ○ Are currently Joint Commission (TJC) accredited; ○ Currently has a minimum Centers for Medicare & Medicaid Services (CMS) 3-star rating; ○ Have a Patient Safety and Adverse Events Composite score (PSI 90) of < 1.5 for two out of the past three years; and ○ Have a 30-day readmission rate < 20% for two out of the past three years. 	<ul style="list-style-type: none"> • Partner facilities are to maintain the same accreditation and quality standards expected of VA acute inpatient facilities.



Emergency Department

MAHSO Planning Guidelines	
Service	Emergency Department
Geography	Facility
Prerequisites	Inpatient Medicine capacity exists to support the ED

Open and Maintain Emergency Department		
Planning Domain	Planning Guidelines	Rationale
Demand	<ul style="list-style-type: none"> Minimum annual ED encounters \geq 13,000 per year 	<ul style="list-style-type: none"> Average of American College of Emergency Physicians (ACEP) annual encounters of 15,768 and Medical Group Management Association (MGMA) annual encounters of 10,195. ¹¹⁴ [(10,195 MGMA minimum emergency medicine encounters + 15,768 ACEP minimum emergency encounters) \div 2 ~ 13,000] Based on VA ED operations of 24 hours per day seven days per week. ¹¹³
Supply	<ul style="list-style-type: none"> ED Director is board certified in Emergency Medicine Adequate staff to support an ED with 1.5 encounters per hour, 24 hours per day, seven days per week 	<ul style="list-style-type: none"> ED Directors that are board certified in Emergency Medicine will be positioned to provide appropriate emergency medicine clinical oversight. Adequate physician and staff coverage must be available to care for patients to provide safe, high quality, and timely care. (13,000 encounters/year \div 8,760 required hours/year to provide single provider coverage 24/7) = 1.5 encounter per hour
Access	<ul style="list-style-type: none"> Location or proposed location is in an enrollee-dense area within a 30-minute drive time 	<ul style="list-style-type: none"> Drive time standards are aligned with the MISSION Act.
Quality	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> EDs are associated with Inpatient Medicine programs and are not evaluated independent of those programs.



Open and Maintain Emergency Department		
Planning Domain	Planning Guidelines	Rationale
Other	<ul style="list-style-type: none"> VAMCs with an ED must have inpatient acute med/surg beds ¹¹³ <p>Resize</p> <ul style="list-style-type: none"> Resize the space to meet demand, using VA Space Planning Criteria ¹¹⁵ <p>Modernize or Replace</p> <ul style="list-style-type: none"> Modernize or replace if main campus building older than 40 years (for MAHSO, should not be built before 1980) 	<ul style="list-style-type: none"> Aligns with VHA Directive 1101.05(2). ¹¹³ <p>Resize</p> <ul style="list-style-type: none"> VA Space Planning Criteria exist to guide ED space decisions. ¹¹⁵ <p>Modernize or Replace</p> <ul style="list-style-type: none"> Older facilities are challenging to modernize and operate efficiently.

Partner AA / Federal / CCN (Buy) Emergency Department		
Planning Domain	Planning Guideline	Rationale
Access	<ul style="list-style-type: none"> Target a 30-minute or less drive time from current VA site 	<ul style="list-style-type: none"> Drive time standards are aligned with the MISSION Act.
Other	<ul style="list-style-type: none"> Align ED partnerships with the partnerships established for delivery of inpatient medical care 	<ul style="list-style-type: none"> Partnerships with non-VA, non-DoD entities for emergency care are dependent on the partnerships for the associated inpatient medicine services.



Urgent Care Center

MAHSO Planning Guidelines	
Service	Urgent Care Center
Geography	Facility
Prerequisites	UCC have adequate encounters to support operations

Open and Maintain Urgent Care Center		
Planning Domain	Planning Guidelines	Rationale
Demand	<ul style="list-style-type: none"> Minimum UCC encounters \geq 5,975 per year 6,800 non-overlapping enrollees within a 30-minute drive time of a VA site of care 	<ul style="list-style-type: none"> Based on MGMA annual encounters of 3,515 x 1.70 FTEs (single coverage)¹¹⁴ and VA UCC minimum operating hours of 12 hours per day Monday – Friday.¹¹³ Primary care physicians, on average, have a panel of approximately 1,200 enrollees and Advanced Practice Nurses, on average, have a panel of approximately 950 enrollees.¹¹⁶ Applying a weighted average, based on four Physicians and two Advanced Practice Nurse, the rounded total comes to approximately 6,800 enrollees to support a six provider Patient Aligned Care Team (PACT). Note that not every enrollee is paneled.
Supply	<ul style="list-style-type: none"> Ability to recruit and retain sufficient physician or advanced practice providers Adequate staff to support a UCC within defined operating hours 	<ul style="list-style-type: none"> Adequate physician staff must be available to care for patients and provide safe, high quality, and timely care.
Access	<ul style="list-style-type: none"> Target an enrollee-dense area that provides the most access to Veterans within a 30-minute drive time 	<ul style="list-style-type: none"> DHA states that an UCC “must be located within a 30-minute drive time of beneficiaries”.¹¹⁷ Drive time standards are aligned with the MISSION Act.
Quality	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> UCCs do not systematically track metrics or patient outcomes.⁸⁸



Open and Maintain Urgent Care Center		
Planning Domain	Planning Guidelines	Rationale
Other	Modernize or Replace <ul style="list-style-type: none"> Modernize or replace if main campus building older than 40 years (for MAHSO, should not be built before 1980) 	Modernize or Replace <ul style="list-style-type: none"> Older facilities are challenging to modernize and inefficient operationally.

Partner AA / Federal / CCN (Buy) Urgent Care Center		
Planning Domain	Planning Guideline	Rationale
Access	<ul style="list-style-type: none"> Target a 30-minute or less drive time from current VA site 	<ul style="list-style-type: none"> DHA states that an UCC “must be located within a 30-minute drive time of beneficiaries”.¹¹⁷ Drive time standards are aligned with the MISSION Act.
Quality	<ul style="list-style-type: none"> VA CCN third party administrators identify quality metrics 	<ul style="list-style-type: none"> VA CCN third party administrators vet all partner providers to assure they meet third party administrator’s quality metrics.
Other	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Urgent care may be provided through the expanding VA CCN.¹¹⁸



Detailed Planning Guidelines Rationale

The Inpatient Medicine and Emergency Medicine planning guidelines were driven by data analysis, academic research, and in collaboration with VA CSO, Hospital Medicine program, Emergency Medicine program, and Office of Nursing Services. Data sources used include:

- Managerial Cost Accounting Office Discharge Cube
- VA Station Report, Geocoded Enrollee Cube
- Strategic Analytics for Improvement and Learning Scorecard
- Enrollee Healthcare Projection Model
- Government Furnished Information
- Veterans Health Administration Support Services Center Encounters Cube
- Emergency Medicine Management Tool
- Facility Summary Report (Office of Academic Affiliation)
- Centers for Medicare & Medicaid Services Cost Report
- IBM Market Expert

Inpatient Medicine

The minimum inpatient ADC guideline of 20 is based on 80% occupancy of the CMS criteria for CAH bed counts, which states that inpatient beds cannot exceed 25 (25 beds at an 80% occupancy is 20 beds). ¹¹¹

Inpatient units should be sized for staff to be productive (24-32 beds for a med/surg units), while units that are too small are considered to be inefficient from a staffing standpoint. ¹¹⁹ “Considering the average nurse to patient ratios of 1:5, 24 beds allow for four caregivers to be present when the unit is 85% occupied, which is a typical occupancy goal.” ¹¹⁹

Emergency Department

The minimum guideline of 13,000 annual ED encounters was established by averaging MGMA and ACEP encounter data, while considering the FTEs required to provide single physician coverage per shift. On average physicians work 1,758 clinical hours per year based on 2,080 annual work hours (40 hours per week x 52 weeks per year), minus time for leave, continuing medical education (CME), and administrative functions (2,080 at 85% is 1,758) (See Tables 15, 16, and 17).

Table 15: MGMA Emergency Department Encounter Calculation

MGMA	
2019 MGMA median emergency medicine encounters	2,039 ¹¹⁴
Annual operating hours (24 hours x 365 days)	8,760 ¹¹³
Annual clinical hours per physician	1,758
FTEs for single physician coverage (8,760 annual operating hours ÷ 1,758 clinical hours per physician)	5.0



MGMA	
Minimum emergency encounters per year (2,039 median emergency medicine encounters x 5.0 FTEs for single physician coverage)	10,195
Patients per hour	1.2

Table 16: ACEP Emergency Department Encounter Calculation

ACEP	
2009 ACEP patients per hour	1.8 ¹²⁰
Annual operating hours (24 hours x 365 days)	8,760 ¹¹³
Minimum emergency medicine encounters per year (1.8 patients per hour x 8,760 annual operating hours)	15,768

Table 17: Emergency Department Encounter Guideline Calculation

Emergency Department Minimum Encounter Guideline	
MGMA minimum emergency medicine encounters per year (see Table 15)	10,195
ACEP minimum emergency medicine encounters per year (see Table 16)	15,768
Average (rounded) (10,195 MGMA minimum emergency medicine encounters + 15,768 ACEP minimum emergency encounters) ÷ 2	13,000
Average patients per hour (13,000 encounters ÷ 8,760 hours)	1.5

Urgent Care Center

The minimum guideline of 5,975 annual UCC encounters was established by calculating annual standard operating hours of 3,000 while considering the FTEs required to provide single coverage per shift. On average physicians work 1,758 clinical hours per year based on 2,080 work hours (40 hours per week x 52 weeks per year), minus time for leave, CME, and administrative functions (2,080 x 85% = 1,758) (See Table 18).

Table 18: UCC Encounter Guideline Calculation

Urgent Care Center Minimum Encounter Guideline	
2019 MGMA median urgent care encounters	3,515 ¹¹⁴
Annual operating hours (12 hours per hour x 250 days per year) (Monday – Friday)	3,000 ¹¹⁵
Annual clinical hours per physician	1,758
FTEs for single coverage (3,000 operating hours ÷ 1,758 physician clinical hours)	1.70
Minimum urgent care encounters per year (3,515 minimum urgent care encounters per year x 1.70 FTEs for single coverage)	5,975

As an alternative to UCCs, Veterans can access same-day care at all VA medical centers and Community Based Outpatient Clinics. ¹²¹ Expanding capacity in primary



care, or having designated “walk-in” slots in the schedule, could replace some of the need for a UCC and the potential associated staffing, operational, and infrastructure inefficiencies.

5. Future Program Planning

5.1 Applying the Inpatient Medicine 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, for development of a standard national strategy and approach to planning and maintaining programs. Inpatient Medicine was identified as a service line requiring a set of national planning guidelines that would be applicable for use in current (MAHSO) and future planning efforts.

This document, the Inpatient Medicine National Planning Strategy, establishes the definitive, consistent, planning guidelines to be used for all VA Inpatient Medicine and Emergency Medicine planning efforts moving forward.

The national planning guidelines will be used to ensure that the final market assessments apply standardized programmatic criteria across the nation. The guidelines will be useful to VA planners to inform future quadrennial market assessments and other planning exercises.

How will MAHSO apply the Inpatient Medicine National Planning Strategy?

The four-step process for revisiting MAHSO draft opportunities describes how Inpatient Medicine and Emergency Medicine specific opportunities will be reviewed and updated, if necessary:



1. Review Phase 1-3 Market Assessment Data and Inpatient Medicine, Emergency Department, and Urgent Care Center Opportunities

The scope of review will include revisiting Phase 1-3 markets, re-assessing all market opportunities using new data (as applicable), and potentially developing new opportunities.



2. Apply Inpatient Medicine and Emergency Department, and Urgent Care Medicine Planning Guidelines

For each market and applicable draft Inpatient Medicine opportunity, the planner will review market assessment data and apply Inpatient Medicine planning guidelines. The reassessment will include any new data sources in the updated methods described previously. Next, planning guidelines developed here (demand, supply, access, quality, and mission, and other applicable MISSION Act § 203 criteria) will be applied to existing opportunities.

3. Update/Create Inpatient Medicine, Emergency Department, and Urgent Care Center Opportunities

As needed, existing market optimization or capital opportunities will be revised. In addition, after application of the planning guidelines, new Inpatient Medicine opportunities may also be created.

4. Review and Finalize with VA Leadership

Once draft opportunities are revised or developed and are ready for VA Leadership approval, a review with the Chief Strategy Office, VHA Leadership, and VISN Directors will move the opportunities towards finalization.

5.2 Planning Steps

These guidelines provide a structure to assist planners in identifying Inpatient Medicine and Emergency Medicine programs at VA facilities across the country that may have opportunities related to maintaining and modernizing, partnering with another VA facility, partnering with academic affiliates and/or community providers, or using VA CCN to assist in caring for Veterans. The application of these guidelines will trigger a review of the identified programs to carefully examine the feasibility of the opportunity and determine how Veterans' health care needs will be appropriately met.

Inpatient Medicine Programs

The planner reviews the current and projected inpatient ADC. If the projected ADC indicates that a facility is going to have an ADC of less than 20, a review will be triggered. Some questions to ask to develop an appropriate strategy include:

- What other VA facilities in the market have Inpatient Medicine programs? Are these VA facilities within a 60-minute drive time?
- Is it appropriate to combine these programs?
- Is there a DoD Military Treatment Facility within a 60-minute drive time with unused inpatient capacity that could be made available to VA patients?
- What other resources are available in the community or with academic affiliates?
- Who are the acute care providers with a CMS rating of three-stars or higher within a 60-minute drive time?



- Are there community providers with whom VA can partner and create a collaborative relationship for inpatient medicine services?
- What are the quality scores of these community providers? Does the quality meet or exceed VA guidelines?

Once these questions are answered, an appropriate strategy can be developed for the identified Inpatient Medicine program. The following list of options, ordered from most to least desirable, may be considered:

- Relocate and combine the program with another VA facility.
- Relocate and combine the program with a DoD Military Treatment Facility partner.
- Develop a partnership agreement with an academic affiliate or other community providers to combine with VA Inpatient Medicine program, or portions of the program, such as a hospitalist program, with the identified partner.
- Use VA CCN to provide care for VA patients.
- After a plan for the care of VA patients is developed and implemented, close and divest the Inpatient Medicine program.
- Lacking all other appropriate options, maintain and modernize the current facility to keep the Inpatient Medicine program viable at the existing VAMC.

Emergency Medicine Programs

All VAMCs with Inpatient Medicine programs are to have either an ED or UCC to provide an appropriate access point for inpatient admissions. ED annual encounters of 13,000 or less will trigger a review of opportunities to maintain the ED, downgrade an ED to a UCC, or close the ED. Minimum UCC encounters of 5,975 per year will trigger a review of opportunities to maintain or close the UCC. Some questions to consider when determining the appropriateness of adding, maintaining, or closing an ED and UCC, or downgrading an ED to a UCC are:

- What other VA facilities are in the market with ED or UCC services? Are these VA facilities within a 30-minute drive time?
- What other resources are available in the community or with an academic affiliate?
- Where are the community trauma centers located?
- How many patients access ED services between 9 p.m. and 7 a.m.?
- Should the ED convert to a UCC and provide less than 24/7 coverage?
- Are there enough ED visits within a 30-minute drive time of a centralized point of care that it would be advantageous to explore the possibility of developing a FSED with all the necessary ancillary services?

UCC services can sometimes provide a means for VA patients to obtain same-day primary care. VA supports the Patient Aligned Care Team (PACT) concept, which is the



most desirable means of care through a patient's primary care provider. Due to medical conditions, urgency, and primary care provider availability, it is necessary to occasionally seek an immediate alternative for the current episode of care. UCCs can vary in the complexity and scope of the services provided. Criteria developed for a UCC's continued viability is based on the minimal number of enrollees and PACTs surrounding a site of care. The basic UCC consists of a single provider, in a clinic that is operating a minimum of 12 hours per day, Monday through Friday. For this, a minimum of 6,800 non-overlapping enrollees within a 30-minute drive time is needed. It is predicted that a site of care with less than six PACTs will not have enough same-day volume to feasibly support development of a dedicated UCC. Additionally, more complex UCCs (that have more ancillary services) may be needed to support Inpatient Medicine programs or the ability to treat large numbers of patients after regular business hours at a site that may encompass several VA points of care with patients residing within a 30-minute drive time. Planning for an opportunity to open, maintain, or close a UCC requires careful consideration of multiple factors.

Conclusion

The Inpatient Medicine National Planning Strategy, created in conjunction with the VHA Hospital Medicine Program, Emergency Medicine Program, and Office of Nursing Services is a framework for designing consistent service delivery planning for Inpatient Medicine and Emergency Medicine services. Based on Inpatient Medicine and Emergency program priorities, the Inpatient Medicine National Planning Strategy provides guidance on how Inpatient Medicine programs can respond to varied market demands and trends while optimizing VA resources in a Veteran-centric framework. These guidelines 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 AIR Commission Report.



Appendix A: References

1. Department of Veterans Affairs (VA), Veterans Health Administration (VHA). VHA site tracking (VAST) system. Accessed 2021.
2. Department of Veterans Affairs. Managerial Cost Accounting Office Discharge Cube 2019.
3. Department of Veterans Affairs. Beds reported by the field in GFI submission.
4. Department of Veterans Affairs. *Enrollee Healthcare Projection Model* 2019.
5. Department of Veterans Affairs. Facility Summary Report provided by Office of Academic Affiliation.
6. IBM Market Expert.
7. Centers for Medicare and Medicaid Services. CMS Cost Report.
8. VA Strategic Analytics for Improvement and Learning Scorecard.
9. Department of Veterans Affairs. Emergency Management Tool 2019.
10. Department of Veteran Affairs. Veterans Health Administration Support Services Center (VSSC) Encounters Cube 2019.
11. Department of Veterans Affairs, Chief Strategy Office and Program Office. MAHSO National Planning Strategy Interviews. August 18, 2021.
12. O'Hanlon C, Huang C, Sloss E, et al. Comparing VA and Non-VA Quality of Care: A Systematic Review. *Journal of General Internal Medicine*. January 2017;32(1):105-121.
13. Department of Veterans Affairs. *MAHSO Market Assessment Site Interviews: VAMC*; March 2019 – November 2020.
14. Department of Veterans Affairs, Chief Strategy Office and Program Offices. MAHSO National Planning Strategy Interviews. August 2, 2021.
15. MAHSO. VA Infrastructure Slide.
16. King DD, Beebe CE, Suchomel JL, Bardwell PL, Donna VD. *Health Facilities Management*. January 8, 2018. Available at: <https://www.hfmmagazine.com/articles/3239-a-closer-look-at-infrastructure>. Accessed June 2021.
17. Department of Veterans Affairs. Enrollee Healthcare Projection Model. 2020.
18. Department of Veterans Affairs, Chief Strategy Office and Program Offices. MAHSO National Planning Strategy Interviews. July 8, 2021.
19. Department of Veterans Affairs. Reliance by Service Category.
20. Office of Academic Affiliations. *U.S. Department of Veterans Affairs*. January 7, 2020. Available at: https://www.va.gov/oa/gme_default.asp.
21. Mission of the Office of Academic Affiliations. *U.S. Department of Veterans Affairs*. September 24, 2019. https://www.va.gov/oa/oa_mission.asp.
22. Department of Veterans Affairs. Office of Academic Affiliations.



23. Department of Veterans Affairs. About VA. *va.gov*. n.d.. Available at: https://www.va.gov/about_va/. Accessed June 2021.
24. MAHSO. VA COVID-19 Admissions. June 21, 2021. Accessed August 17, 2021.
25. Baum A, Schwartz MD. Admissions to Veterans Affairs Hospitals for Emergency Conditions During the COVID-19 Pandemic. *JAMA*. June 2020;324(1):96-99.
26. Department of Veterans Affairs (VA) Office of Inspector General. *Review of Veterans Health Administration's Emergency Department and Urgent Care Center Operations during the COVID-19 Pandemic*: Department of Veterans Affairs (VA) Office of Inspector General; 2020.
27. Fast Facts on U.S. Hospitals, 2021. *aha.org*. January 2021. Available at: <https://www.aha.org/statistics/fast-facts-us-hospitals>. Accessed July 19, 2021.
28. National Academies of Sciences, Engineering, and Medicine. *Facilities Staffing Requirements for the Veterans Health Administration Resource Planning and Methodology for the Future*. Washington, D.C.: The National Academies Press; 2020.
29. Marcozzi D, Carr B, Liferidge A, Baehr N, Browne B. Trends in the Contribution of Emergency Departments to the Provision of Hospital-Associated Health Care in the USA. *International Journal of Health Services*. October 2018;48(2):267-288.
30. Department of Veterans Affairs (VA). Department of Veterans Affairs FY 2018 - 2024 Strategic Plan. *va.gov*. May 31, 2019. <https://www.va.gov/oei/docs/va2018-2024strategicplan.pdf>. Accessed June 16, 2021.
31. Hospital Beds per 1,000 Population by Ownership Type. *kff.org*. 2019. Available at: <https://www.kff.org/other/state-indicator/beds-by-ownership/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>. Accessed July 19, 2021.
32. U.S. Department of Health and Human Services (HHS), Health Resources and Services Administration (HRSA). Hill-Burton Free and Reduced-Cost Health Care. *Health Resources and Services Administration (HRSA)*. March 2021. Available at: <https://www.hrsa.gov/get-health-care/affordable/hill-burton/index.html>. Accessed July 19, 2021.
33. Magnan S. Social Determinants of Health 101 for Health Care: Five Plus Five. *nam.edu*. October 9, 2017. Available at: <https://nam.edu/social-determinants-of-health-101-for-health-care-five-plus-five/>. Accessed July 21, 2021.
34. Orand J. The Shift to Value-Based Healthcare and How It Impacts Optimum Reimbursement. *sympplr.com*. April 30, 2019. Available at: <https://www.sympplr.com/blog/the-shift-to-value-based-healthcare-and-how-it-impacts-optimum-reimbursement>. Accessed June 15, 2021.
35. Critical Access Hospitals. *ruralhealthinfo.org*. August 20, 2019. Available at: <https://www.ruralhealthinfo.org/topics/critical-access-hospitals>. Accessed July 8, 2021.



36. Freeman VA, Thompson K, Howard HA, Randolph R, Holmes GM. The 21st Century Rural Hospital - A Chart Book. *The University of North Carolina at Chapel Hill - The Cecil G. Sheps Center for Health Services Research, North Carolina Rural Health Research Program*. March 2015. Available at: <https://www.shepscenter.unc.edu/wp-content/uploads/2015/02/21stCenturyRuralHospitalsChartBook.pdf>. Accessed July 2021.
37. Ellison A. Rural Hospital closures hit record high in 2019. *beckershospitalreview.com*. February 7, 2020. Available at: https://www.beckershospitalreview.com/finance/rural-hospital-closures-hit-record-high-in-2019-here-s-why.html?utm_campaign=bhr&utm_source=website&utm_content=related. Accessed July 8, 2021.
38. Eagle A. Health systems build microhospitals to fill community gaps. *hfm magazine.com*. July 5, 2017. Available at: <https://www.hfm magazine.com/articles/2984-health-systems-build-microhospitals-to-fill-community-gaps>. Accessed July 30, 2021.
39. A Rising Trend: Micro-hospitals. *healthadministrationdegree.usc.edu*. n.d.. Available at: <https://healthadministrationdegree.usc.edu/blog/micro-hospitals/>. Accessed June 10, 2021.
40. Foster Swift Collins & Smith PC. CMS Releases Guidance on Shared Space Arrangements. *lexology.com*. February 26, 2020. Available at: <https://www.lexology.com/library/detail.aspx?g=e355ff4e-e1d4-4547-883e-370dd2944f84>. Accessed July 14, 2021.
41. Connelly P. A Hospital-within-a-hospital: Good for Hospitals, Good for Patients. *Indiana Health Law Review*. October 2016;13(2).
42. Hospital at Home. *johnshopkinssolutions.com*. Available at: <https://www.johnshopkinssolutions.com/solution/hospital-at-home/>. Accessed July 30, 2021.
43. Cryer L, Shannon SB, Van Amsterdam M, Leff B. Costs For 'Hospital At Home' Patients Were 19 Percent Lower, With Equal Or Better Outcomes Compared To Similar Inpatients. *Health Affairs*. June 2012;31(6):1237-1243.
44. CMS Announces Comprehensive Strategy to Enhance Hospital Capacity Amid COVID-19 Surge. *cms.gov*. November 25, 2020. Available at: <https://www.cms.gov/newsroom/press-releases/cms-announces-comprehensive-strategy-enhance-hospital-capacity-amid-covid-19-surge>. Accessed July 30, 2021.
45. Acute Hospital Care at Home Program Approved List of Hospitals. *cms.gov*. April 5, 2021. <https://www.cms.gov/files/document/covid-acute-hospital-care-home-program-approved-list-hospitals.pdf>. Accessed July 30, 2021.
46. History. *Hospital at Home*. Available at: <https://www.hospitalathome.org/about-us/history.php>. Accessed July 30, 2021.



47. 10 USC Ch. 55: MEDICAL AND DENTAL CARE. *uscode.house.gov*. <https://uscode.house.gov/view.xhtml?path=/prelim@title10/subtitleA/part2/chapter55&edition=prelim>. Accessed July 19, 2021.
48. Department of Defense. FACT SHEET: Overview of the Department of Defense's Military Health System. Available at: https://archive.defense.gov/home/features/2014/0614_healthreview/docs/Fact_Sheet_Overview.PDF. Accessed July 2021.
49. Maucione S. DHA set to takeover all military hospitals by end of 2021, even after transition halt during pandemic. *federalnewsnetwork.com*. February 23, 2021. Available at: <https://federalnewsnetwork.com/defense-main/2021/02/dha-set-to-takeover-all-military-hospitals-by-end-of-2021-even-after-transition-halt-during-pandemic/>. Accessed July 20, 2021.
50. Klime P. More retirees, family members to be booted from military hospitals under Pentagon reform plans. *militarytimes.com*. December 9, 2019. Available at: <https://www.militarytimes.com/pay-benefits/2019/12/09/more-retirees-family-members-to-be-booted-from-military-hospitals-under-pentagon-reform-plans/>. Accessed August July, 2021.
51. Heiser S. New Findings Confirm Predictions on Physician Shortage. *aamc.org*. April 23, 2019. Available at: <https://www.aamc.org/news-insights/press-releases/new-findings-confirm-predictions-physician-shortage>. Accessed June 27, 2021.
52. Finnegan J. More medical students than ever, but more residency slots needed to solve physician shortage, AAMC says. *fiercehealthcare.com*. July 26, 2019. Available at: <https://www.fiercehealthcare.com/practices/more-medical-students-than-ever-but-more-residency-slots-needed-to-solve-physician>. Accessed July 26, 2021.
53. Institute of Medicine. *Graduate Medical Education That Meets the Nation's Health Needs*. Washington, D.C.: The National Academies Press; 2014.
54. The Role of GME Funding in Addressing the Physician Shortage. *aamc.org*. 2021. Available at: <https://www.aamc.org/news-insights/gme>. Accessed July 26, 2021.
55. Bureau of Labor Statistics, U.S. Department of Labor. Registered Nurses. *Occupational Outlook Handbook*. 2021. Available at: <https://www.bls.gov/ooh/healthcare/registered-nurses.htm>. Accessed August 12, 2021.
56. Krupnick M. Despite High Demand For Nurses, Colleges Aren't Keeping Up. *npr.org*. December 221, 2020. Available at: <https://www.npr.org/2020/12/21/947496118/despite-high-demand-for-nurses-colleges-arent-keeping-up>. Accessed July 26, 2021.
57. Cohen JK. 5 technology challenges facing hospitals today - 1 way to alleviate the burden. *beckershospitalreview.com*. November 6, 2018. Available at: <https://www.beckershospitalreview.com/healthcare-information-technology/5->



- [technology-challenges-facing-hospitals-today-1-way-to-alleviate-the-burden.html](#). Accessed July 21, 2021.
58. Institute of Medicine. *The Changing Economics of Medical Technology*. Washington, DC: The National Academies Press; 1991.
 59. Poulin P, Austen L, Scott CM, et al. Introduction of new technologies and decision making processes: a framework to adapt a Local Health Technology Decision Support Program for other local settings. *Medical Devices*. November 2013;6:185-193.
 60. Tinker A. The Top Seven Healthcare Outcome Measures and Three Measurement Essentials. *HealthCatalyst*. October 30, 2018. Available at: <https://www.healthcatalyst.com/insights/top-7-healthcare-outcome-measures>. Accessed July 15, 2021.
 61. Agency for Healthcare Research and Quality. Quality and improvement and monitoring at your fingertips. *www.ahrq.gov*. Available at: <https://www.qualityindicators.ahrq.gov/>. Accessed July 16, 2021.
 62. The Joint Commission. 2021 Hospital National Patient Safety Goals. *jointcommission.org*. January 1, 2021. <https://www.jointcommission.org/-/media/tjc/documents/standards/national-patient-safety-goals/2021/simplified-2021-hap-npsg-goals-final-11420.pdf>. Accessed July 15, 2021.
 63. Top 10 Hospital Performance Metrics You Need to Know. *definitivehealthcare.com*. July 2019. Available at: <https://www.definitivehc.com/blog/top-10-hospital-performance-metrics-you-need-to-know>. Accessed July 30, 2021.
 64. How many emergency rooms are in America. *bellaireer.com*. n.d.. Available at: <https://bellaireer.com/how-many-emergency-rooms-are-in-america/>. Accessed July 16, 2021.
 65. Alexander BJA, Dark MMC. Freestanding Emergency Departments: What Is Their Role in Emergency Care? *Annals of Emergency Medicine*. September 2019;74(3):325-331.
 66. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health & Health Services. Trends in the Utilization of Emergency Department Services, 2009-2018. *HHS.gov*. March 2, 2021. Available at: <https://aspe.hhs.gov/pdf-report/utilization-emergency-department-services>. Accessed July 23, 2021.
 67. Sun R, Karaca Z, Wong HS. Statistical Brief #238 Trends in Hospital Emergency Department Visits by Age and Payer, 2006-2015. *hcup-us.ahrq.gov*. March 2018. Available at: <https://www.hcup-us.ahrq.gov/reports/statbriefs/sb238-Emergency-Department-Age-Payer-2006-2015.jsp>. Accessed August 18, 2021.
 68. Chou, MD, MPH SC, Baker, PhD O, Schuur, MD, MHS J. Changes in Emergency Department Care Intensity from 2007-2016: Analysis of the National Hospital Ambulatory Medical Care Survey. *westjem.com*. March 2018. Available at: <https://westjem.com/articles/changes-in-emergency-department-care-intensity->



- [from-2007-16-analysis-of-the-national-hospital-ambulatory-medical-care-survey.html](#). Accessed July 23, 2021.
69. Augustine, MD, FACEP J. Emergency Department Usage Trends Before COVID-19. *acep.now*. May 21, 2020. Available at: <https://www.acepnow.com/article/emergency-department-usage-trends-before-covid-19/>. Accessed July 8, 2021.
 70. U.S. Department of Health and Human Services Office of the Assistant Secretary for Planning and Evaluation. *Trends in the Utilization of Emergency Department Services, 2009-2018*. Washington, DC March 2021.
 71. Giannouchos TV, Biskupiak J, Moss MJ, Brixner D, Andreyeva E, Ukert B. Trends in outpatient emergency department visits during the COVID-19 pandemic at a large, urban, academic hospital system. *American Journal of Emergency Medicine*. February 2021;40:20-26.
 72. Augustine, MD, FACEP JJ. Latest Data Reveal the ED's Role as Hospital Admission Gatekeeper. *acepnow.com*. December 20, 2019. Available at: <https://www.acepnow.com/article/latest-data-reveal-the-eds-role-as-hospital-admission-gatekeeper/>. Accessed August 11, 2021.
 73. Freestanding Emergency Departments. *acep.org*. April 2020;:Originally approved June 2014. Available at: <https://www.acep.org/patient-care/policy-statements/freestanding-emergency-departments/>. Accessed July 30, 2021.
 74. Alexander, BA AJ, Dark, MD, MPH C. Freestanding Emergency Departments: What is Their Role in Emergency Care? *Annals of Emergency Medicine*. June 2019;74(3):325-331.
 75. Grand View Research. U.S. Freestanding Emergency Department Market Size, Share & Trends Analysis Report By Ownership (OCED, IFSED), By Service (Emergency Department, Imaging, Laboratory), And Segment Forecasts, 2020 - 2027. *grandviewresearch.com*. April 2020. Available at: <https://www.grandviewresearch.com/industry-analysis/us-freestanding-emergency-department-market>. Accessed July 23, 2021.
 76. Dueffer HA. Emergency Medicine Issues to Know for Your Interview - Hot Topics in EM. *Emergency Medicine Resident Association (EMRA)*. n.d.. Available at: <https://www.emra.org/students/advising-resources/interviews/emergency-medicine-issues-to-know-for-your-interview/>. Accessed July 2021.
 77. D'Angelo J. Five challenges facing emergency medicine. *northwell.edu*. October 30, 2017. Available at: <https://www.northwell.edu/news/five-challenges-facing-emergency-medicine>. Accessed July 15, 2021.
 78. Rasouli HR, Esfahani AA, Farajzadeh MA. Challenges, consequences, and lessons for way-outs to emergencies at hospitals: a systematic review study. *BMC Emergency Medicine*. October 2019;19(62).
 79. Emergency Nurses Association. *Crowding, Boarding, and Patient Throughput*. Schaumburg, IL 2020.



80. Venkatesh AK, Janke A, Rothenberg C, Chen E, Becher RD. National trends in emergency department closures, mergers, and utilization, 2005-2015. *Plos One*. May 2021;16(5).
81. McHugh, PhD M, Van Dyke, MPP K, McClelland, MN, RN M, Moss, MPA D. *Improving Patient Flow and Reducing Emergency Department Crowding: A Guide for Hospitals; Section 3. Measuring Emergency Department Performance*. Rockville, MD: U.S. Department of Health and Human Services - Agency for Healthcare Research and Quality; 2012. 11(12)-0094.
82. American College of Emergency Physicians. *Publishing Wait Times for Emergency Department Care* June 2012.
83. Dolan S. How the growth of the urgent care industry business model is changing the healthcare market in 2021. *businessinsider.com*. January 29, 2021. Available at: <https://www.businessinsider.com/urgent-care-industry-trends>. Accessed June 28, 2021.
84. Association of American Medical Colleges (AAMC). *The Complexities of Physician Supply and Demand: Projections from 2018 to 2033*. Washington, D.C.: AAMC; 2020.
85. Stoimenoff, PT, CHC L, Newman, MD, FAAP N. URGENT CARE INDUSTRY WHITE PAPER 2018 (Unabridged): The Essential Role of the Urgent Care Center in Population Health. *ucaoa.org*. 2018. Available at: <https://www.ucaoa.org/LinkClick.aspx?fileticket=m3Bq5772Y-Q%3D&portalid=80;#:~:text=Urgent%20care%20centers%20provide%20immediate,primary%20care%20practice%20or%20clinic>. Accessed July 10, 2021.
86. Ho V, Metcalfe L, Dark C, et al. Comparing Utilization and Costs of Care in Freestanding Emergency Departments, Hospital Emergency Departments, and Urgent Care Centers. *Annals of Emergency Medicine*. December 2017;70(6):845-857.
87. Survey Reveals Millennials' Relationship with Health Care. *harmonyhit.com*. August 2, 2019. Available at: <https://www.harmonyhit.com/survey-reveals-millennials-relationship-with-health-care/>. Accessed July 30, 2021.
88. Shipley, MD, MBA, FACEP N. National Urgent Care Clinical Quality Metrics: 'This is the way'. *jucm.com*. February 1, 2021. Available at: <https://www.jucm.com/national-uc-clinical-quality-metrics/>. Accessed July 27, 2021.
89. Physician Recruitment Challenges to Urgent Care Growth. *ascendo.com*. 2020. Available at: <https://ascendo.com/health-care-recruitment/physician-recruitment-challenges-to-urgent-care-center-growth/>. Accessed July 30, 2021.
90. Will Healthcare Staffing Shortages Challenge Urgent Care Growth? *amnhealthcare.com*. 2021. Available at: <https://www.amnhealthcare.com/will-healthcare-staffing-shortages-challenge-urgent-care-growth/>. Accessed July 30, 2021.



91. 4 Urgent Care Trends Shaping the Healthcare Industry. *buxtonco.com*. 2021. Available at: <https://www.buxtonco.com/blog/4-urgent-care-trends-shaping-the-healthcare-industry>. Accessed July 30, 2021.
92. Top Challenges Urgent Care Centers Face in 2018. *orthonowfranchise.com*. n.d.. Available at: <https://orthonowfranchise.com/top-challenges-urgent-care-centers-face-2018/>. Accessed July 16, 2021.
93. History of the Joint Commission. *jointcommission.org*. Available at: <https://www.jointcommission.org/about-us/facts-about-the-joint-commission/history-of-the-joint-commission/>. Accessed July 26, 2021.
94. Smart Hospitals Making the Future of Patient Experience a Reality. *patientengagementhit.com*. January 24, 2020. Available at: <https://patientengagementhit.com/features/smart-hospitals-making-the-future-of-patient-experience-a-reality>. Accessed June 21, 2021.
95. Topics: ICU Telehealth. *thejournalofmhealth.com*. September 12, 2019. Available at: <https://thejournalofmhealth.com/tele-icu-programs-the-benefits-to-critical-care-teams/>. Accessed 28 July, 2021.
96. What is tele ICU. *soctelemed.com*. 2021. Available at: <https://www.soctelemed.com/resources/telemedicine-glossary/what-is-teleicu/>. Accessed July 28, 2021.
97. VHA Directive 1144 - Hospital in Home Program. *va.gov*. January 19, 2021. https://www.va.gov/VHApublications/ViewPublication.asp?pub_ID=9157. Accessed July 26, 2021.
98. Advisory Board. Planning for Site-of-Care Shifts. June 25, 2021. Accessed July 20, 2021.
99. 6 Best Practices for a Successful Emergency Department. *www.beckershospitalreview.com*. July 2, 2012. Available at: <https://www.beckershospitalreview.com/hospital-key-specialties/6-best-practices-for-a-successful-emergency-department.html>. Accessed July 20, 2021.
100. Improving the Patient Experience: Ten High-Yield Interventions. *aaem.org*. March/April 2016. Available at: https://www.aaem.org/UserFiles/file/MarApr16CommonSense_OMC.pdf. Accessed July 20, 2021.
101. Tam HL, Chung SF, Lou CK. A review of triage accuracy and future direction. *BMC Emergency Medicine*. December 2018;18(1):1-7.
102. Burgess LB, Kynoch, RN, PhD K, Hines, RN S. Implementing best practice into the emergency department triage process. *International Journal of Evidence-Based Healthcare*. March 2019;17(1):27-35.
103. Baker, RN, MBA S, Shupe R, Smith, MD, FACEP D. Three Best Practice Models for Driving Efficient Flow. *huronlearninglab.com*. February 1, 2014. Available at: <https://www.huronlearninglab.com/resources/articles-and-industry-updates/insights/february-2014/three-best-practice-models-for-driving-efficient-f>. Accessed July 26, 2021.



104. Data Driven Operations Improve ED Efficiency. *healthcatalyst.com*. August 15, 2019. Available at: https://www.healthcatalyst.com/success_stories/emergency-department-throughput-orlando-health. Accessed July 26, 2021.
105. Social Work and Case Management in the Emergency Department. *acep.org*. October 2020. <https://www.acep.org/globalassets/new-pdfs/preps/social-work-and-case-management-in-the-emergency-department.pdf>. Accessed July 23, 2021.
106. Auerbach C, Mason SE. The value of the presence of social work in emergency departments. *Social Work in Health Care*. April 2010;49(4):314-326.
107. 7 Healthcare Facility Best Practices Every Urgent Care Should Know. *uptimehealth.com*. November 11, 2020. Available at: <https://uptimehealth.com/2020/11/7-healthcare-facility-best-practices-every-urgent-care-should-know/>. Accessed July 26, 2021.
108. Shamji MPH H, Baier, MPH RR, Gravenstein, MD, MPH S, Gardner, MD RL. Improving the Quality of Care and Communications During Patient Transitions: Best Practices for Urgent Care Centers. *The Joint Commission Journal on Quality and Patient Safety*. July 2014;40(7):319-324.
109. Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press; 2001.
110. Muller MJ, Janiga NJ. Urgent Care Industry in 2020. *healthcareappraisers.com*. September 15, 2020. Available at: <https://healthcareappraisers.com/urgent-care-center-industry-in-2020/>. Accessed July 27, 2021.
111. Centers for Medicare and Medicaid Services (CMS). Critical Access Hospital. *cms.gov*. March 2021. <https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/CritAccessHospfctsht.pdf>. Accessed June 8, 2021.
112. Readmission rates. *mayoclinic.org*. 2021. Available at: <https://www.mayoclinic.org/about-mayo-clinic/quality/quality-measures/readmission-rates>. Accessed August 25, 2021.
113. VHA Directive 1101.05(2), Emergency Medicine. *va.gov*. March 7, 2017. https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=3236. Accessed June 11, 2021.
114. MGMA: DataDrive 2019. *MGMA*. 2019. Available at: <https://www.mgma.com/data/benchmarking-data/mgma-datadive-all-surveys>. Accessed June 11, 2021.
115. VA. Chapter 256: Emergency Department (ED) and Urgent Care Clinic (UCC). *va.gov*. October 3, 2016. <https://www.cfm.va.gov/til/space/spChapter256.pdf>. Accessed June 9, 2021.
116. Department of Veterans Affairs, Veterans Health Administration. VHA Handbook 1101.02. Accessed 2021.



117. DHA. Defense Health Agency Procedural Instructions. *health.mil*. January 30, 2018. <https://health.mil/Reference-Center/Policies/2018/01/30/DHA-PI-6025-03-Criteria-for-Urgent-Care-in-MTFs>. Accessed June 18, 2021.
118. Fact Sheet: Veteran Community Care Urgent Care. *va.gov*. June 9, 2021. https://www.va.gov/COMMUNITYCARE/docs/pubfiles/factsheets/FactSheet_20-29.pdf. Accessed August 24, 2021.
119. Thurston T. Top 6 Design Practices for Patient Care Units. *mcdmag.com*. December 13, 2017. Available at: https://mcdmag.com/2017/12/top-6-design-practices-for-patient-care-units/#.YOx_TehKiUm. Accessed June 14, 2021.
120. ACEP Now. Staffing an ED Appropriately and Efficiently. *acepnow.com*. August 1, 2009. Available at: <https://www.acepnow.com/article/staffing-ed-appropriately-efficiently/>. Accessed June 11, 2021.
121. Department of Veterans Affairs. VA MISSION Act UC Flyer. *va.gov*. June 10, 2020. https://www.va.gov/COMMUNITYCARE/docs/programs/MISSION-Act_UC-Flyer.pdf#. Accessed June 16, 2021.
122. RAND Corporation. Assessment A (Demographics). *va.gov*. September 15, 2015. Available at: https://www.va.gov/opa/choiceact/documents/assessments/Assessment_A_Demographics.pdf. Accessed August 31, 2021.



Appendix B: Interviews

Offices	Interviewees	Titles/Positions	Date
VHA Hospital Medicine Program	Dr. Albertine Beard	Chief of Hospital Medicine at the Minneapolis VA; VISN 23 Hospital Consultant	April 22, 2021
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	
Inpatient Mental Health Service Program Office	Dr. Gayle Iwamasa	National Director	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Office of Women’s Health	Dr. Christine Kolehmainen	Director	
Fayetteville VAMC Emergency	Dr. Douglas R. Villard	Department Chief	
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	April 29, 2021
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Office of Women’s Health	Dr. Christine Kolehmainen	Director	
Fayetteville VAMC Emergency	Dr. Douglas R. Villard	Department Chief	
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	May 6, 2021
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	



Offices	Interviewees	Titles/Positions	Date
Emergency Medicine Program	Dr. Chad Kessler	National Director	May 6, 2021
Fayetteville VAMC Emergency	Dr. Douglas R. Villard	Department Chief	
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	May 13, 2021
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Office of Women’s Health	Dr. Christine Kolehmainen	Director	
Emergency Nursing Field Advisory Committee	David Pena	Clinical Nurse Advisor	
Fayetteville VAMC Emergency	Dr. Douglas R. Villard	Department Chief	May 21, 2021
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Emergency Nursing Field Advisory Committee	David Pena	Clinical Nurse Advisor	
Fayetteville VAMC Emergency	Dr. Douglas R. Villard	Department Chief	June 23, 2021
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	
Critical Care and Med/Surg	Russell Coggins	Clinical Nurse Advisor	



Offices	Interviewees	Titles/Positions	Date
VHA Hospital Medicine Program	Dr. Melver Anderson	National Program Director	July 8, 2021
Specialty Care Services Program Office	Josh Geiger	Systems Specialist	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Office of Women’s Health	Dr. Christine Kolehmainen	Director	
VHA Hospital Medicine Program	Dr. Mel Anderson	National Program Director	July 22, 2021
Critical Care and Med/Surg	Russell Coggins	Clinical Nurse Advisor	
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Emergency Nursing Field Advisory Committee	David Pena	Clinical Nurse Advisor	
VHA Hospital Medicine Program	Dr. Mel Anderson	National Program Director	August 2, 2021
VHA Hospital Medicine Program	Dr. Mel Anderson	National Program Director	August 5, 2021
Emergency Medicine Program	Dr. Chad Kessler	National Director	
Emergency Nursing Field Advisory Committee	David Pena	Clinical Nurse Advisor	
Fayetteville VAMC Emergency	Dr. Douglas Villard	Department Chief	
VHA Hospital Medicine Program	Dr. Mel Anderson	National Program Director	August 18, 2021
Emergency Medicine Program	Dr. Chad Kessler	National Director	



Appendix C: Acronyms

Acronym	Definition
ACEP	American College of Emergency Physicians
ADC	Average Daily Census
AIR	Asset and Infrastructure Review
ALOS	Average Length of Stay
BDOC	Bed Days of Care
CAH	Critical Access Hospital
CCN	Community Care Network
CME	Continuing Medical Education
CMS	Centers for Medicare & Medicaid Services
CMI	Case Mix Index
COVID-19	Coronavirus disease 2019
CPT	Current Procedural Terminology
CSO	Chief Strategy Office
DHA	Defense Health Agency
DoD	Department of Defense
ED	Emergency Department
FSED	Freestanding Emergency Department
FTE	Full-Time Equivalent
FY	Fiscal Year
GME	Graduate Medical Education
HwH	Hospital within a Hospital
ICU	Intensive Care Unit
MAHSO	Market Area Health Systems Optimization
Med/Surg	Medical and Surgical
MGMA	Medical Group Management Association
MHS	Military Health System
MISSION	Maintaining Systems and Strengthening Integrated Outside Networks
PACT	Patient Aligned Care Team
PCP	Primary Care Physician



Acronym	Definition
TJC	The Joint Commission
UCA	Urgent Care Association
UCC	Urgent Care Center
U.S.	United States
VA	Department of Veterans Affairs
VAMC	VA Medical Center
VHA	Veterans Health Administration
VISN	Veteran Integrated Service Network



Appendix D: VA Priority Groups

The Veterans’ Health Care Eligibility Reform Act of 1996 (Eligibility Reform Act) was established to open enrollment to all Veterans and mandated that VA establish a priority-based enrollment system to manage access to care. There are eight priority groups, based on military service history, disability rating, income level, Medicaid qualification, and other VA benefits.¹²²

Priority Group	Eligibility Requirements
1	<ul style="list-style-type: none">• Veteran has a service-connected disability rated as 50% or more disabling, or• Veteran has a service-connected disability VA concluded makes the Veteran unemployable, or• Veteran received the Medal of Honor.
2	<ul style="list-style-type: none">• Have a service-connected disability rated as 30% or 40% disabling
3	<ul style="list-style-type: none">• Veteran is a former prisoner of war, or• Veteran received the Purple Heart medal, or• Veteran was discharged for a disability caused by, or got worse because of, active-duty service, or• Veteran has a service-connected disability rated as 10% or 20% disabling, or• Veteran was awarded special eligibility classification under Title 38, U.S.C. § 1151, “Benefits for individuals disabled by treatment or vocational rehabilitation”
4	<ul style="list-style-type: none">• Veteran is receiving VA aid and attendance or housebound benefits, or• Veteran received a VA determination of catastrophic disability.
5	<ul style="list-style-type: none">• Veteran has no service-connected disability, or a non-compensable service-connected disability rated as 0% disabling, and an annual income level below adjusted income limits (based on resident zip code), or• Veteran is receiving VA pension benefits, or• Veteran is eligible for Medicaid programs.
6	<ul style="list-style-type: none">• Veteran has compensable service-connected disability rated as 0% disabling., or• Veteran was exposed to ionizing radiation during atmospheric testing or during the occupation of Hiroshima and Nagasaki, or• Veteran is participating in Project 112/SHAD, or• Veteran served in the Republic of Vietnam between Jan. 9, 1962 and May 7, 1975, or• Veteran served in the Persian Gulf War between Aug. 2, 1990 and Nov. 11, 1998, or• Veteran served on active duty at Camp Lejeune for at least 30 days between Aug 1, 1953 and Dec 31, 1987, or• Veteran is currently or newly enrolled in VA health care and served in a theater of combat operations after Nov. 11, 1998 or were discharged from active duty on or after Jan. 28, 2003; and were discharged less than five years ago.
7	<ul style="list-style-type: none">• Veteran’s gross household income below geographically adjusted income limits (GMT) where Veteran lives and agree to copays.
8	<ul style="list-style-type: none">• Veteran’s gross household income above GMT where Veteran lives and agree to copays.