

**MISSION Act of 2018 Section 401: Underserved VAMCs**  
PRIMARY CARE Scores & Scoring Criteria

COVID IMPACT

The COVID-19 pandemic altered health care delivery significantly. Non-emergent care was delayed and virtual care modalities became critical. This impacted both Veteran demand for care and VA supply of care. As such, the FY21 run of the underserved primary care model is restricted to the pre-COVID period (October 2019 – February 2020), ensuring all model components are validated and appropriately measured. **The FY21 list of underserved facilities should be considered *historical* and not used for COVID-related management purposes.** We anticipate the FY22 scores will be able to account for COVID disruptions.

NOTABLE IMPROVEMENTS

Each year, we strive to produce the best underserved model we can – accurate and effective at measuring underservedness. Thus, each year, we make notable improvements to the model based on empirical assessment and feedback from local and national stakeholders. Below are the main improvements made ahead of the FY21 run.

- **Modified wait times to include entire PACT team** – more comprehensive look at Veteran access to primary care
- **Improved capacity measure to include entire PACT team (social workers, psychologists, nurses, clinical pharmacists, dieticians)** – more comprehensive look at a facility’s supply of primary care
- **Added return visit rate** – more comprehensive look at a facility’s supply of primary care
- **Added clinic efficiency** – more comprehensive look at a facility’s supply of primary care (*\*see note on page 7*)
- **Added established patient scheduling** – more comprehensive look at a facility’s supply of primary care

VARIABLES

The final scores are based on several independent variables, including both time varying characteristics and fixed facility characteristics. These variables each have unique influence on the model and scores. Some increase a VAMC’s likelihood of being underserved while others reduce it.

*Time-varying characteristics – variables that change over time due to the influence of other factors*

1. **\*Clinic efficiency** – This variable measures the total clinic encounters per day of clinic capacity.
  - a. Clinic efficiency is used to estimate a VAMC’s ability to provide health care to its enrollees. An important element of clinic operations, it mediates the relationship between clinic inputs and total encounters produced by the clinic. A VAMC with higher clinic efficiency can care for more Veterans, increasing clinic access.
  - b. *Note: Clinic efficiency has significant influence on access and was included in model development. After extensive discussions about COVID disruptions and other issues, the Offices of Primary Care and Veterans Access to Care chose to create two underserved lists in FY21: one with clinic efficiency and one without. Given the variable’s influence on*

*access, the two lists are different. **Only facilities in the top 20 on both lists were reported as underserved.** This caveat will affect action planning and resource allocation if the FY21 rankings are used for those purposes.*

2. **Primary care clinic capacity (physicians & advanced practice providers)** – This variable measures the total primary care clinic time at each VAMC for the primary providers of PACT teams.
  - a. Clinic capacity measures are used to estimate a VAMC’s ability to provide health care to its enrollees. This measure accounts for all physician and APPs who generate workload in primary care clinics and incorporates in-person, virtual, and unscheduled care. A VAMC can care for more Veterans and improve access as its capacity increases.
3. **Medicare Advantage community penetration** – This variable measures the percentage of eligible individuals who have Medicare Advantage coverage in the area surrounding a VAMC.
  - a. Medicare Advantage (MA) offers more tailored insurance coverage than traditional Medicare. Higher MA community penetration may suggest Veterans in those areas also have MA coverage. These Veterans may be less reliant on VA care, and even less reliant than those with traditional Medicare coverage.
4. **Established patient scheduling** – This variable measures the percentage of established patient visits scheduled 90 days or more in advance.
  - a. Established patient scheduling practices directly influence new patient wait times. A VAMC with a higher proportion of established patient visits scheduled well in advance may have difficulties scheduling new patients when appointments are requested.
5. **Community care visit volume** – This variable contains the number of community care visits purchased for Veterans living within 40 miles of a VAMC.
  - a. Under the VA MISSION Act of 2018, Veterans are eligible to use community care under certain circumstances. The number of visits a VAMC purchases from community providers for Veterans who might otherwise rely on the facility’s providers may affect the availability of providers to serve new patients.
6. **Household median income** – This variable measures the median household income in the area surrounding a VAMC.
  - a. Median household income varies across the country and is used to measure affluence. Veterans who live in areas with higher median household incomes may be wealthier and less reliant on VA care.
7. **Community private insurance coverage** – This variable measures the percentage of males aged 18-64 years eligible for health insurance coverage in the area surrounding a VAMC.
  - a. When individuals gain health insurance coverage, the demand for health care increases. This is true for both VA and the private sector. VAMCs in areas with higher rates of community insurance coverage may notice a higher demand for VA care. Their enrolled Veterans may be more reliant on VA care.
8. **Percentage of Priority Groups 7 & 8 Veterans** – This variable measures the percentage of a VAMC’s Veteran enrollees who are classified as Priority 7 or 8.

- a. Veteran enrollees are placed in one (or more) of eight priority groups based on need, affluence, and eligibility for VA care. Veterans in Priority Groups 7 and 8 are required to financially contribute to their VA care and may be less reliant on VA care.
9. **Primary care clinic capacity (other PACT team members)** – This variable measures the total primary care clinic time at each VAMC for non-physician/non-APP members of the PACT teams.
    - a. Clinic capacity measures are used to estimate a VAMC’s ability to provide health care to its enrollees. This measure accounts for all other providers and staff who generate workload in primary care clinics (nurses, social workers, clinical pharmacists, psychologists, and dieticians) and incorporates scheduled in-person and virtual care. A VAMC can care for more Veterans and improve access as its capacity increases.
  10. **Primary care Veteran enrollees** – This variable measures the total number of Veteran enrollees within each facility’s catchment area.
    - a. Veteran enrollees utilize health care at VA facilities. The number of enrollees and the amount of care they demand impacts how much care a facility should provide.
  11. **Percentage of Veterans over 65 years old** – This variable measures the percentage of a VAMC’s enrollee population that is over 65 years old.
    - a. Medicare eligibility typically begins at 65 years old. This variable is a proxy for the number of a VAMC’s Veteran enrollees who have Medicare coverage. These Veterans may be less reliant on the VA for health care as they have another source of coverage.
  12. **Community unemployment rate** – This variable measures the rate of unemployment in the area surrounding a VAMC.
    - a. Unemployment may be associated with reduced overall demand for health care. This variable serves as a proxy for the rate of unemployment among a VAMC’s Veteran enrollees. Veterans who are unemployed may be less likely to request VA care.
  13. **Nosos risk score** – This variable measures the average clinical risk/complexity for a Veteran enrollee at a VAMC.
    - a. Clinical risk/complexity describes the health of the average Veteran cared for at a VAMC and Nosos scores analyze this risk/complexity in terms of the cost associated with care. A higher Nosos score signifies a more complex Veteran population and may influence a facility’s capacity to care for its Veterans.
  14. **HPSA score** – This variable identifies Health Provider Shortage Areas (HPSA), geographical areas with an insufficient number of providers based on population size and an overutilization or inaccessibility of existing providers.
    - b. HPSA scores are predetermined by the Human Resources and Services Administration. Being located in a shortage area may influence a VAMC’s ability to care for its Veterans.
  15. **PACT panel size** – This variable measures the current capacity of a VAMC’s PACT teams.
    - a. PACT teams are a multidisciplinary team-based approach to providing primary care. PACT teams are assigned a specific number of Veterans to serve (a panel). Whether or not a team’s panel is full may influence the VAMC’s ability to care for its enrolled Veterans.

16. **Zillow Home Value Index** – This variable measures changes to housing prices in the area surrounding a VAMC.
  - a. The Zillow Home Value Index indicates areas throughout the country where median home values are increasing or decreasing. Veterans who live in areas with higher house price indices may have higher rents and, therefore, less money to spend on health care. This may make them less reliant on VA care.
17. **Drive time** – This variable measures the average drive time to a primary care CBOC for a VAMC’s Veteran enrollees.
  - a. Drive time are associated with rurality and can influence access to care. Veterans living in more rural areas may face challenges accessing both VA and community care.
18. **Return Visit Rate** – This variable measures the frequency with which a primary care clinic’s patient population returns to clinic each year.
  - a. The frequency at which established patients return to clinic for follow-up visits influences clinic access for new patients. The return visit rate measures the average number of visits per year a primary care clinic’s patients have. A clinic with a higher return visit rate may have difficulty providing adequate access to new patients.

*Fixed facility characteristics – descriptive features of VAMCs that either do not change over time or are measured infrequently*

19. **Mental health program complexity** – This variable calculates the complexity of the mental health (MH) services provided at a VAMC.
  - c. MH program complexity is scored in two parts: the percentage of a VAMC’s Veteran enrollees who use MH services and the number and types of MH programs available. MH program complexity may influence the facility’s capacity to care for its Veterans.
20. **ICU/surgical program complexity** – This variable calculates the availability and complexity of both ICU care and surgical care provided at a VAMC.
  - d. ICU and surgical program availability and complexity may influence the facility’s capacity to care for its Veterans.
21. **Complex clinical program complexity** – This variable calculates the number of complex clinical programs provided at a VAMC.
  - e. Twelve clinical programs, such as blind rehabilitation or polytrauma, increase the administrative and clinical complexity of a VAMC. The number of complex clinical programs a VAMC offers may influence the facility’s capacity to care for its Veterans.

### NUMERICAL WEIGHTS

In statistical modeling, each independent variable has an associated “weight.” This weight explains the influence the variable has on the dependent variable, or the outcome of interest. The model calculated each variable’s influence automatically (weights were not determined by hand).

*Value of weight (magnitude of influence)*

Variables were determined to have various influences on whether a VAMC is underserved or not. A larger absolute value numerical weight indicates a larger impact on the outcome. In other words, regardless of sign, a larger weight signifies a larger influence.

*Sign of weight (direction of influence)*

Variables either increase a VAMC's likelihood of being underserved or reduce it. Variables with a positive weight increased a VAMC's likelihood of being underserved. Variables with a negative weight reduced the likelihood.

VARIABLE	NUMERICAL WEIGHT
<i>Time-varying characteristics</i>	
1. *Efficiency (Physicians/APPs)	-7.671
2. Clinic Capacity (Physicians/APPs)	-6.179
3. Medicare Advantage Penetration	-5.418
4. Percent of Est Patient Appts Scheduled > 90 Days	3.296
5. Number of CC Visits	-2.488
6. Household Median Income	-2.361
7. Percent Private Insurance (Males 18-64)	2.158
8. Percent of Enrollees Priority 7/8	-1.882
9. Clinic Capacity (non-Physicians/non-APPs)	-1.869
10. Number of Enrollees	-1.714
11. Percent of Enrollees 65 or Older	-1.699
12. Unemployment Rate	-1.654
13. Nosos Risk Score	-1.051
14. PC Healthcare Primary Shortage Area	-0.820
15. PACT Panel Size	0.791
16. Zillow House Price Index	-0.759
17. Average Drive Time to PC	-0.576
18. PACT Return Visit Rate	0.268
<i>Fixed facility characteristics</i>	
19. Mental health program complexity	0.000
20. ICU/surgical program complexity	0.000
21. Complex clinical program complexity	0.000

### NON-NUMERICAL WEIGHTS

The numerical weights derived from the model are very technical and may not be necessary in every presentation or briefing. Non-numerical weights were developed to clearly and simply explain each variable's influence on underserved scores.

The numerical weights were divided into three non-numerical weight categories: low, medium (med), and high. These are absolute value categories and do not demonstrate the direction of influence. For this reason, a positive or negative sign is included for clarity.

VARIABLE	NON-NUMERICAL WEIGHT
<i>Time-varying characteristics</i>	
1. *Efficiency (Physicians/APPs)	- HIGH
2. Clinic Capacity (Physicians/APPs)	- HIGH
3. Medicare Advantage Penetration	- HIGH
4. Percent of Est Patient Appts Scheduled > 90 Days	+ HIGH
5. Number of CC Visits	- MED
6. Household Median Income	- MED
7. Percent Private Insurance (Males 18-64)	+ MED
8. Percent of Enrollees Priority 7/8	- MED
9. Clinic Capacity (non-Physicians/non-APPs)	- MED
10. Number of Enrollees	- MED
11. Percent of Enrollees 65 or Older	- MED
12. Unemployment Rate	- MED
13. Nosos Risk Score	- MED
14. PC Healthcare Primary Shortage Area	- LOW
15. PACT Panel Size	+ LOW
16. Zillow House Price Index	- LOW
17. Average Drive Time to PC	- LOW
18. PACT Return Visit Rate	+ LOW
<i>Fixed facility characteristics</i>	
19. Mental health program complexity	- LOW
20. ICU/surgical program complexity	- LOW
21. Complex clinical program complexity	- LOW