2022

# SC Legislative Safety-Net Proviso Report

Proviso 33.22 DHHS: Rural Health Initiative

Developed by the University of South Carolina Institute for Families in Society
Under Contract to the
SC Department of Health and Human Services

Institute for Families in Society
*Improving Policy. Advancing Practice.*
*Strengthening Communities and Family Well-Being.*

### Acknowledgments

The Safety-Net Proviso Report was developed under contract with the South Carolina Department of Health and Human Services (SCDHHS) by the following Institute for Families in Society staff:

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### About IFS

The University of South Carolina (USC) Institute for Families in Society (IFS) is a non-partisan, non-governmental institute established in 1992 to conduct research focused on the health and well-being of families and communities. The Division of Integrated Health and Policy Research (IHPR) within IFS conducted the background research and analysis to prepare this report. IHPR is an interdisciplinary team with expertise in maternal and child health, health services and policy research, information technology, geographical information science (GIS), statistics, data science, and web and graphic design. As the fourth oldest University-Medicaid partnership in the nation, a large aspect of IHPR work is our technical assistance and research partnership with the state's Medicaid agency (SCDHHS). Our work also involves extensive GIS and visualizations to help inform data-driven decisions in collaboration with several state and federal agencies, organizations, and private foundations.

IFS has extensive experience in public health research and evaluation with both qualitative and quantitative approaches. Specifically, we have years of experience and staff expertise collecting meaningful data from patients and providers and working with South Carolina's complex Medicaid datasets and other relevant public health and health care datasets.

### Research Approach

The research approach of IFS provides reports that help to improve policy and decision-making through research and analysis. We believe the best decisions are data-driven decisions with the understanding that health care delivery must consider the connection between the community of residence and potential outcomes. Publications as independent researchers do not necessarily reflect the opinions of our research clients and sponsors. IFS makes independent decisions about the evaluation itself, including methodology, analytical strategy, evaluation data analysis, and presentation of results.

### Suggested Citation

Institute for Families in Society (2022). *2022 SC Legislative Safety-Net Proviso Report.* University of South Carolina. Columbia, South Carolina

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## Background

This report provides an analysis of the Safety-Net Proviso for fiscal year 2021-2022 using a geospatial framework to understand the ability of providers and rural population. It addresses the part of South Carolina (SC) Proviso H4100 related to "evaluation of the state's safety-net providers that includes, at a minimum, Federally Qualified Health Centers, Rural Health Clinics, and to the extent applicable to funding received by the state, free clinics." In response to the Safety-Net Proviso provided in Appendix A, this report will examine South Carolina's urban/rural continuum, highlight general population trends, and evaluate distance to care to each of the facilities that comprise the 3 safety-net facility types [Federally Qualified Health Centers (FQHC), Rural Health Centers (RHC), and Free Medical Clinics (FMC)]. Safety-net practices are defined by the Institute of Medicine (IOM) as "those providers that organize and deliver a significant level of health care and other needed services to uninsured, Medicaid and other vulnerable patients."

## Safety-Net Providers

With a population of over 5 million residents, South Carolina is the 24th most populous state in the US and the 40th largest state in terms of geographic area. It is comprised of 46 counties totaling just over 30,000 square miles (roughly 20x larger than Rhode Island and half the size of Wisconsin and of Florida).

South Carolina has 70 Medically Underserved Areas (Appendix B, Figure 1) with more than 25% of the general population living in a Primary Care Health Professional Shortage Area (HPSA) (Appendix B, Figure 2). (HRSA, 2022)

In South Carolina, Medicaid provides insurance to approximately 1.3 million adults and children. Of those currently enrolled in Medicaid, over 45% of enrollees live in a Medically Underserved Area (N = 691,563) and over 72% (N = 1,092,604) live in a Primary Care HPSA (HRSA, 2022. SC MMIS as of June 2022).

South Carolina has 70 Medically Underserved Areas with more than 25% of the general population living in a Primary Care Health Professional Shortage Area (HPSA).

South Carolina has 92 general acute care hospitals of which 4 are designated as Critical Access Hospitals. Neighboring states North Carolina and Georgia have 29 and 21 acute care hospitals, respectively, in counties bordering SC that are included in this analysis (SC DHEC, 2022. American Hospital Directory, 2022.). These hospitals, along with a network of 179 in-state Federally Qualified Health Centers (FQHC) and private specialists provide critical health care services for SC residents.

This report includes details about South Carolina including the urban/rural continuum and general population trends and a geospatial analysis of the availability of South Carolina's safety-net providers outreach to the rural and underserved populations for these time periods: prior to the Proviso's implementation (2013), 5 years after its implementation (2019), and present (2022). This report does not address critical access hospitals, another safety-net facility critical to serving the underserved and rural SC population.

Access issues and outcomes associated with the Healthy Outcomes Plan (HOP) program (Proviso 33.20 and 33.34) can be found in the HOP report (IFS HOP Report 2022).

## South Carolina Safety-Net Attributes

### Rurality

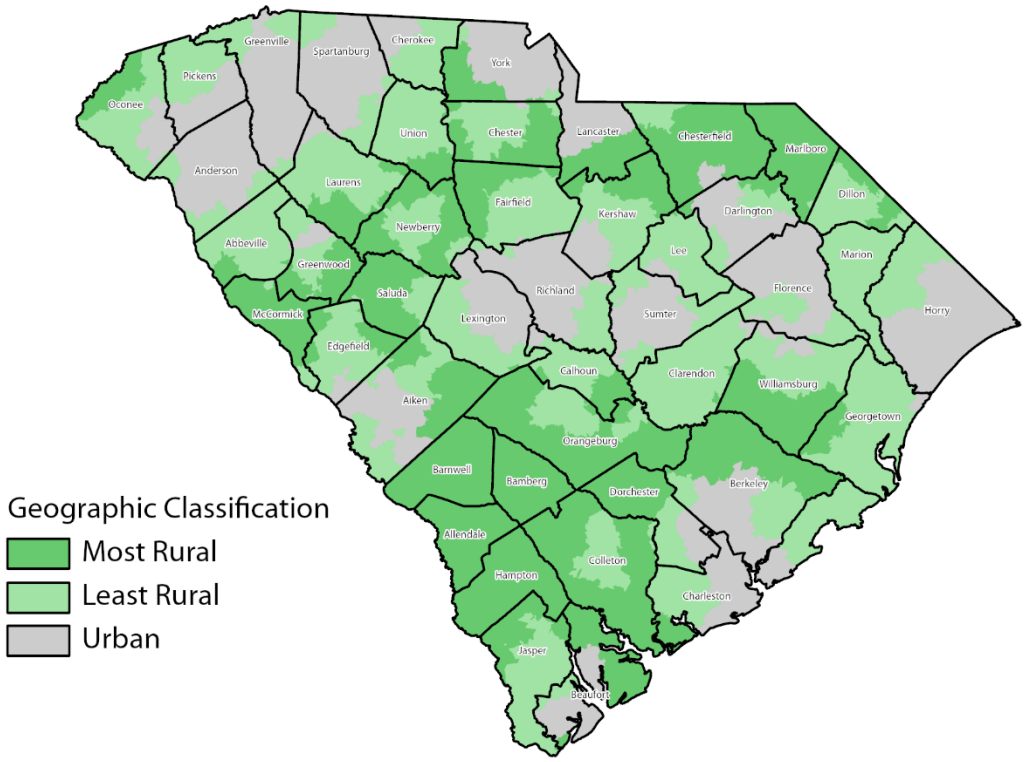
Geographic access to care can be quite different in large urban centers, suburban areas, and remote rural regions. Distinguishing urban and rural areas in South Carolina provides a greater ability to discern important geographic differences in healthcare accessibility for South Carolina residents.

According to the U.S. Census Bureau, any area that is not defined as "urban" by definition is considered "rural". Treating rural as the inverse definition of urban presents challenges regarding how to examine and understand the characteristics of the people and areas outside of urban centers. Such a blanket definition casts these areas as homogenous, when rural and rurality are multidimensional concepts, and their applied definitions can have different impacts (USDA).

IFS uses the Index of Relative Rurality (IRR) to describe rurality in South Carolina (Appendix B, Figure 3). The IRR (Waldorf & Kim, 2015) is a continuous, relative index that combines frequently used census metrics with other measures of rurality to create index values that adhere to a continuous scale from 0-100, with the lowest values being the most urban and the higher values being the most rural. As an index, the IRR treats rurality as a relative concept, and it can be used to evaluate contextual changes over space and time. The index's values are relative to the area for which it is being calculated and is scalable to any geographic unit.

Considering the multidimensionality of rurality and with the focus of this report on the underserved, further delineation of rural ZCTAs was needed to provide a working framework for this report. Using the IRR, IFS derived a 3-class classification system specific to South Carolina for this report to identify ZIP Code Tabulation Areas (ZCTAs) in the state that were Urban, Least Rural, and Most Rural (Figure 1). IRR break values were determined by analyzing each ZCTA's index scores against the U.S. Census Bureau's rural/urban designations. The break value between the IRR-based urban and rural was determined to be the intersection between the respective frequency distributions. This rural designation was further classified into Most Rural and Least Rural using the mean of the Census-based rural designation. The final break values and number of ZCTAs of the IRR can be seen in Appendix B Table 1.

Figure 1. Index of Relative Rurality Classifications: Urban, Least Rural, and Most Rural ZIP Code Tabulation Areas in South Carolina




## Population Trends, 2014 to 2020

An examination of general population trends in South Carolina provides context for the assessment of the state's safety-net provider network and can inform planning for future population change (growth or decline) across the urban/rural continuum.

Based on U.S. Census Bureau/American Community Survey (ACS) 5-year estimates, the state's total population rose from roughly 4.72 million in 2014 to 5.09 million in 2020, an increase of approximately 8% (Table 1).

Table 1. Population Estimates in South Carolina, 2014 to 2020

| Population Estimates* | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | *Percent Change* | *Population Trends* |
|---|---|---|---|---|---|---|---|---|---|
| **Statewide** | | | | | | | | | |
| Total | 4,727,273 | 4,777,576 | 4,834,605 | 4,893,444 | 4,955,925 | 5,020,806 | 5,091,517 | *7.7* | |
| Adult (18+ Years) | 3,647,245 | 3,695,743 | 3,748,826 | 3,802,489 | 3,859,674 | 3,918,304 | 3,982,912 | *9.2* | |
| Child (0 - 17 Years) | 1,080,028 | 1,081,833 | 1,085,779 | 1,090,955 | 1,096,251 | 1,102,502 | 1,108,605 | *2.6* | |
| Women of Childbearing Age (15 - 44 Years) | 933,015 | 937,777 | 943,671 | 950,798 | 958,626 | 967,494 | 977,599 | *4.8* | |

*Population Estimates from ACS B01001 5-Year.

Urban areas saw the most growth overall (11%) with the adult population growing the fastest (12%) followed by women of childbearing age (8%) and children (6%) (Table 2).

Table 2. Urban Area Population Estimates in South Carolina, 2014 to 2020

| Population Estimates* | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | *Percent Change* | *Population Trends* |
|---|---|---|---|---|---|---|---|---|---|
| **Urban** | | | | | | | | | |
| Total | 3,456,316 | 3,509,706 | 3,569,859 | 3,627,463 | 3,694,754 | 3,760,972 | 3,828,768 | *10.8* | |
| Adult (18+ Years) | 2,659,934 | 2,706,632 | 2,759,805 | 2,809,295 | 2,867,762 | 2,925,107 | 2,984,907 | *12.2* | |
| Child (0 - 17 Years) | 796,382 | 803,074 | 810,054 | 818,168 | 826,992 | 835,865 | 843,861 | *6.0* | |
| Women of Childbearing Age (15 - 44 Years) | 710,130 | 716,689 | 724,592 | 732,713 | 742,561 | 752,807 | 763,521 | *7.5* | |

*Population Estimates from ACS B01001 5-Year.

Rural areas (Tables 3 and 4) experienced overall population decline (Most Rural – 1%, Least Rural – <1%), with the state's Most Rural areas experiencing the greatest decline among children (8%) and women of childbearing age (4%). For these same populations, Least Rural areas also saw a decline, 6% and 4%, respectively.

Table 3. Least Rural Area Population Estimates in South Carolina, 2014 to 2020

| Population Estimates* | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | *Percent Change* | *Population Trends* |
|---|---|---|---|---|---|---|---|---|---|
| **Least Rural** | | | | | | | | | |
| Total | 859,069 | 859,305 | 858,382 | 858,609 | 857,574 | 856,426 | 856,697 | *-0.3* | |
| Adult (18+ Years) | 666,545 | 669,645 | 670,554 | 672,821 | 672,581 | 673,697 | 675,740 | *1.4* | |
| Child (0 - 17 Years) | 192,524 | 189,660 | 187,828 | 185,788 | 184,993 | 182,729 | 180,957 | *-6.0* | |
| Women of Childbearing Age (15 - 44 Years) | 152,336 | 151,893 | 150,408 | 149,471 | 148,246 | 147,445 | 146,543 | *-3.8* | |

*Population Estimates from ACS B01001 5-Year.

Table 4. Most Rural Area Population Estimates in South Carolina, 2014 to 2020

| Population Estimates* | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | *Percent Change* | *Population Trends* |
|---|---|---|---|---|---|---|---|---|---|
| **Most Rural** | | | | | | | | | |
| Total | 411,888 | 408,565 | 406,364 | 407,372 | 403,597 | 403,408 | 406,052 | *-1.4* | |
| Adult (18+ Years) | 320,766 | 319,466 | 318,467 | 320,373 | 319,331 | 319,500 | 322,265 | *0.5* | |
| Child (0 - 17 Years) | 91,122 | 89,099 | 87,897 | 86,999 | 84,266 | 83,908 | 83,787 | *-8.0* | |
| Women of Childbearing Age (15 - 44 Years) | 70,549 | 69,195 | 68,671 | 68,614 | 67,819 | 67,242 | 67,535 | *-4.3* | |

*Population Estimates from ACS B01001 5-Year.

## Geospatial Analysis of Safety-Net Facilities

### Methods

To evaluate geographic access to South Carolina's network of safety-net facilities, IFS geo-located each facility based on the facility's available address using a geographic information system (GIS). Those facilities located in-state were used in the analysis.

While standards exist for drive time (45 minutes) and distance (30 miles) to primary care providers, most of the SC Medicaid population lives much closer than the standard. Data for the latest Managed Care Organization (MCO) network adequacy analysis were used to determine the maximum drive time (20 minutes) to the closest primary care provider for most of the Medicaid population. The 20-minute drive time was used as the threshold to measure access for safety-net facilities target populations, the rural and underserved. The rationale for this is that all patients, regardless of service arrangement (e.g., Fee-For-Service, Managed Care, uninsured, etc.), should have adequate access to healthcare. Using road network distance, 20-minute service areas were drawn around each of the three safety-net provider locations for 2013, 2019, and 2022.

### Data Sources and Caveats

The data framing the analysis of this report were pulled from many different resources to provide a full picture of the residential makeup, geographic size, and critical medical care information for South Carolina. The US Census Bureau releases data from its decennial census as well as their annual surveys at many different geographic levels. The American Community Survey (ACS) was used to provide updated information on residential demographics. The Rand McNally Road Atlas for 2021 was used to establish the geographic size and scale of South Carolina. Information on the medically underserved areas of South Carolina and the specific health professional shortage area (HPSA) data and maps come from the Health Resources & Services Administration (HRSA). HRSA is also the organization that funds the Federally Qualified Health Centers (FQHCs).

Safety-Net Providers:

This evaluation is location specific. Service delivery sites are not equal in services offered. Safety-net providers may offer a variety of services at a given location.

- FQHCs: Grantee and Look-Alike delivery sites were pulled from the Health Resources and Services Administration data stores. Sites must have been listed as 'Active' for the given years.
- RHCs: Locations prior to 2019 were identified and pulled from the CMS CASPER Report (2017). Locations post-2019 were identified and pulled from the Health Resources and Services Administration data stores.
- FMCs: Locations were identified and pulled from The South Carolina Free Clinic Association.

Address data for each safety-net provider was standardized and then geo-located using the IFS composite geocoder. A geocoder (address locator) is "a dataset that stores the address attributes, associated indexes, and rules that define the process for translating nonspatial descriptions of places, such as street addresses, into spatial data that can be displayed as features on a map" (Esri GIS Dictionary). The IFS composite geocoder includes spatial reference data from multiple data sources, each representing a different level of geo-positional accuracy.

The final provider datasets were then linked to a GIS road network for analysis.

*Residents*:
To determine if the residents of a particular community had access to a safety-net provider, the population-weighted centroid of each Zip Code Tabulation Area (ZCTA) was used.

*Inclusions*:
Only those safety-net providers that could be geo-located within the state and only those ZCTAs with a population were included for evaluation.

*Exclusions*:
The following elements were excluded from the evaluation for the provided reason(s): providers that could not be geo-located based on available address information or located within the state or ZCTAs without a measurable population (e.g., state parks, public lands, etc.).

### The COVID-19 Pandemic

Due to the COVID-19 pandemic, several changes to service delivery and policy were made by state agencies to give providers the resources needed to continue providing care in a safe manner. The pandemic also had an impact on providers and services. It decreased access to routine in-person outpatient services and led some patients to avoid care due to fears of contracting the virus. Other possible impacts to safety-net facilities include:

1. The pandemic has had a negative financial impact on provider practices, which could have led to loss of providers. (AMA 2021)
2. Visits to behavioral health providers may not have returned to pre-pandemic rates. Because claims were used, only providers billing for services have been used in this assessment. Available providers who did not bill for services in the analysis time period were not assessed or included in these analyses. (Mehrotra et al.)

The interpretation of the results must be guided by the potential impact of these factors on the safety-net.

### Results

Table 5 below details the number of safety-net facilities by year and by type. The percent change between years 2013 and 2022 was also calculated and tabled. **The largest growth was seen in FMCs in the Most Rural areas and in FQHC locations in the Most Rural areas. RHC locations have declined in both the Most and Least Rural areas of the state since 2013.**

Table 5. Safety-Net Facility Locations by Year and Percent Change, 2013 to 2022

| | 2013 | | | 2019 | | | 2022 | | | % Change 2013 - 2022 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Most Rural | Least Rural | Total | Most Rural | Least Rural | Total | Most Rural | Least Rural | Total | Most Rural | Least Rural | Total |
| FQHC | 32 | 46 | 127 | 38 | 41 | 162 | 43 | 47 | 179 | 34% | 2% | 41% |
| RHC | 28 | 64 | 119 | 15 | 51 | 86 | 15 | 47 | 92 | -46% | -27% | -23% |
| FMC | 3 | 14 | 51 | 9 | 22 | 69 | 10 | 22 | 74 | 233% | 57% | 45% |

*Most Rural and Least Rural are based on the IRR-derived classification.

## FEDERALLY QUALIFIED HEALTH CENTERS (FQHC)

Federally Qualified Health Centers are community-based health centers that provide medically necessary primary health, behavioral health, mental health, and preventive services to all patients regardless of their ability to pay or their health insurance status (Doty et al., 2010).

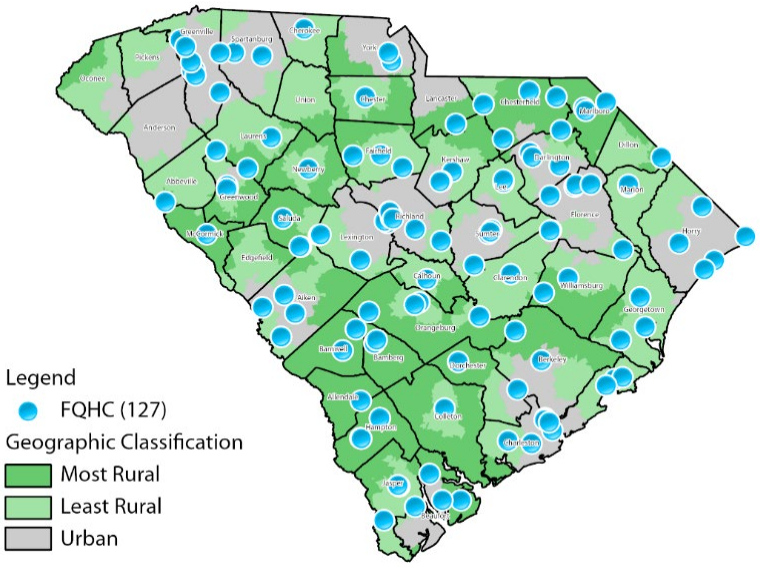
As shown in Appendix B Figures 4, 5, and 6, a 20-minute service area was drawn around each facility to measure access.

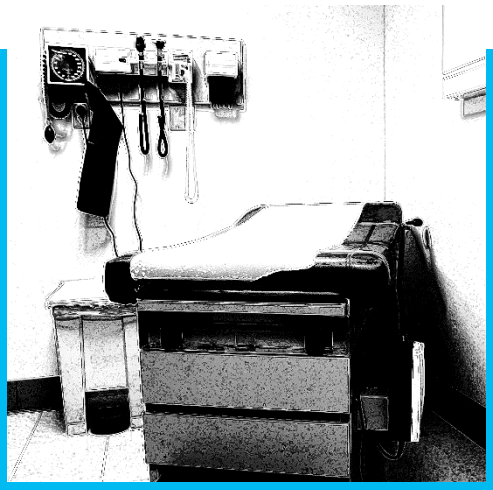
In 2013, prior to the Safety-Net Proviso's implementation, South Carolina had a network of 127 FQHCs, of which 78 were in Most and Least Rural ZCTAs, providing access to over 3.9 million residents (Figure 2). At the time, there were 92 ZCTAs that were more than 20 minutes from an FQHC, 32 of which were in the state's Most Rural areas. These ZCTAs accounted for almost 757,000 residents.

Figure 2. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FQHCs by Urban/Rural Classification and Map of FQHC Locations, 2013

**ZCTAs: FQHC 2013**

| Geographic Classification | ≤20 Minutes | >20 Minutes |
|---|---|---|
| Least Rural | 89 | 31 |
| Most Rural | 104 | 32 |
| Urban | 141 | 29 |
| Total | 331 | 92 |

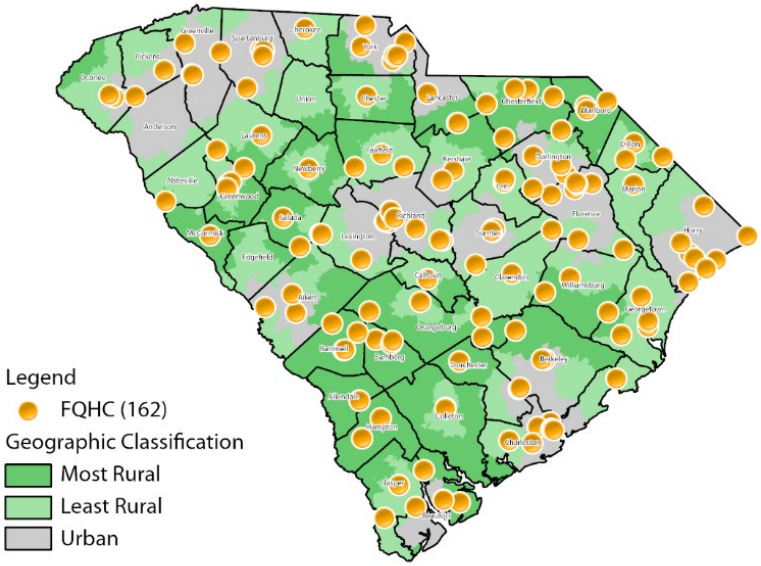


By 2019, an additional 35 facilities were added, expanding the state's network to 162 facilities, a 26% increase (Table 5). These additional facilities provided access to approximately 600,000 more residents, reducing the number of residents with a greater than 20-minute drive time from 757,000 in 2013 (92 ZCTAs) to 484,000 (55 ZCTAs) (Figure 3).

Figure 3. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FQHCs by Urban/Rural Classification and Map of FQHC Locations, 2019

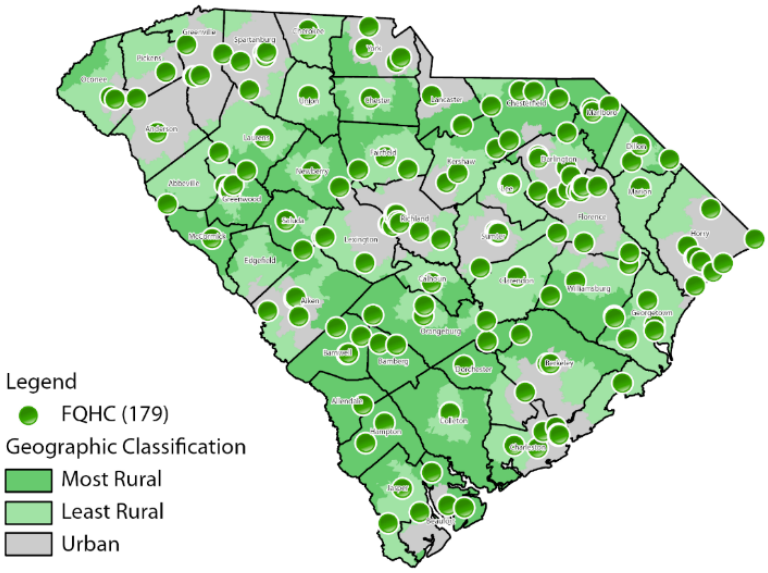
| ZCTAs: FQHC 2019 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 97 | 20 |
| Most Rural | 117 | 19 |
| Urban | 154 | 16 |
| Total* | 368 | 55 |




At present, South Carolina's network of FQHCs has grown to 179 facilities, a 41% increase since 2013 and a 34% increase in Most Rural located facilities (Table 5). Over 90% of ZCTAs and 4.9 million residents now have a facility within a 20-minute drive time (Figure 4).

Figure 4. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FQHCs by Urban/Rural Classification and Map of FQHC Locations, 2022

| ZCTAs: FQHC 2022 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 104 | 13 |
| Most Rural | 119 | 17 |
| Urban | 161 | 9 |
| Total* | 384 | 39 |



## RURAL HEALTH CLINICS (RHC)

As defined by the Centers for Medicare & Medicaid Services (CMS), Rural Health Clinics (RHC) are clinics that are located in rural, underserved areas. RHCs are intended to provide access to primary care services for residents in rural communities that have either been designated as a Geographic- or Population-based Health Professional Shortage Area (Appendix B, Figure 2), a Medically Underserved Area (Appendix B, Figure 1), or a Governor-Designated Secretary-Certified Shortage Area.

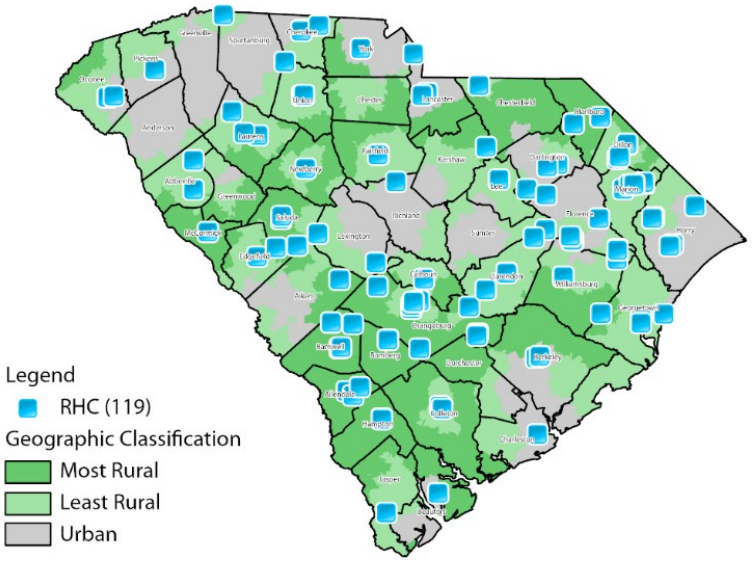
As shown in Appendix B Figures 7, 8, and 9, a 20-minute service area was drawn around each facility to measure access.

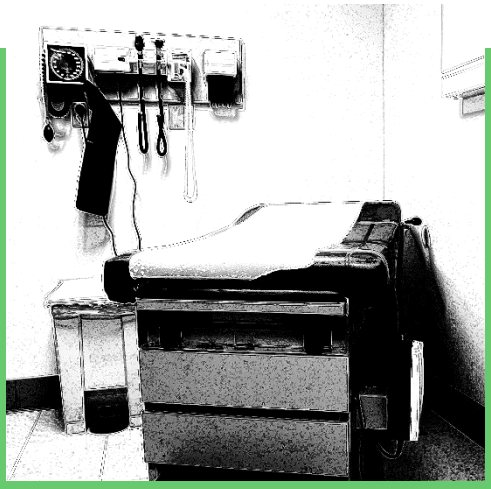
Despite adding additional facilities from 2019 to 2022, South Carolina's network of RHCs has seen an overall decrease; from 119 facilities in 2013 to 92 in 2022, a 27% decrease (Table 5).

In 2013, when measuring if residents had access, 258 ZCTAs (103 Most Rural, 83 Least Rural) had an RHC (N = 119) within 20 minutes of their ZCTA (Figure 5). These ZCTAs accounted for more than 2.4 million residents.

Figure 5. Table of ZCTAs covered within 20 minutes and more than 20 minutes from RHCs by Urban/Rural Classification and Map of RHC Locations, 2013

| ZCTAs: RHC 2013 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 83 | 34 |
| Most Rural | 103 | 33 |
| Urban | 72 | 98 |
| Total | 258 | 165 |

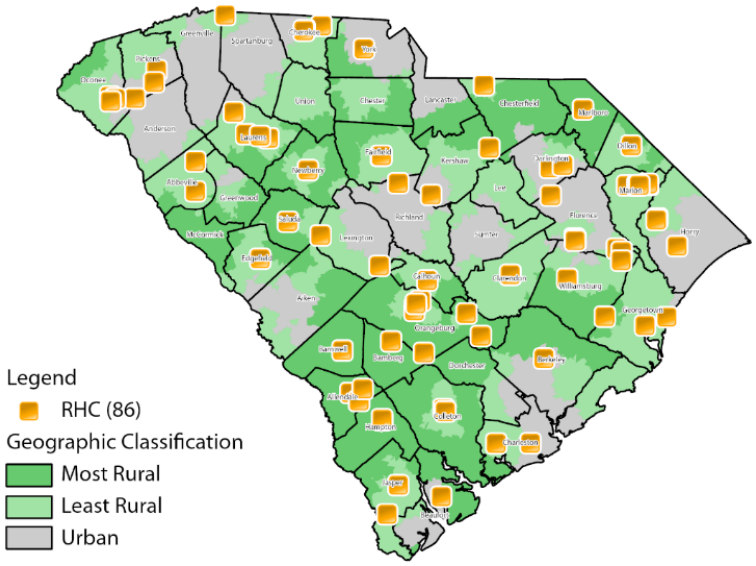


In 2019, the coverage of RHCs decreased (N = 86), resulting in fewer ZCTAs being within 20 minutes of a facility (N = 223; 84 Most Rural, 78 Least Rural) compared to 2013 (Figure 6). This reduced the number of residents within 20 minutes of an RHC from 2.4 million to 2.3 million.

Figure 6. Table of ZCTAs covered within 20 minutes and more than 20 minutes from RHCs by Urban/Rural Classification and Map of RHC Locations, 2019

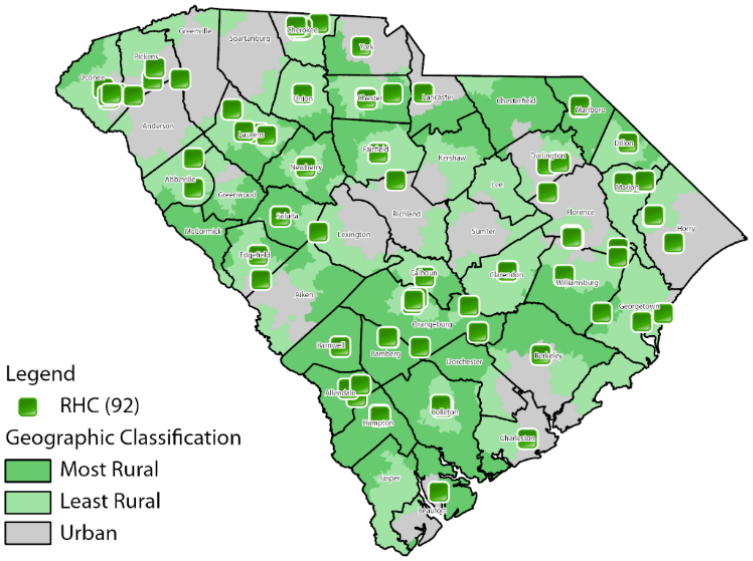
| ZCTAs: RHC 2019 | | |
|---|---|---|
| **Geographic Classification** | **≤20 Minutes** | **>20 Minutes** |
| Least Rural | 78 | 39 |
| Most Rural | 84 | 52 |
| Urban | 61 | 109 |
| Total* | 223 | 200 |




An additional 6 RHCs were added in 2022, increasing the total number of facilities in the state to 92 (Table 5). Despite these additions, there were fewer ZCTAs that had an RHC within a 20-minute drive time compared to 2019 (Figure 7).

Figure 7. Table of ZCTAs covered within 20 minutes and more than 20 minutes from RHCs by Urban/Rural Classification and Map of RHC Locations, 2022

| ZCTAs: RHC 2022 | | |
|---|---|---|
| **Geographic Classification** | **≤20 Minutes** | **>20 Minutes** |
| Least Rural | 70 | 47 |
| Most Rural | 82 | 54 |
| Urban | 70 | 100 |
| Total* | 222 | 201 |



## FREE MEDICAL CLINICS (FMC)

As a safety-net provider, Free Medical Clinics use a volunteer/staff model to provide healthcare services to uninsured, low- and no-income patients. FMCs can provide general medical and prescription services, and specialty services including dental, lab testing, health education, and referrals (SC Free Clinic Association, 2022).

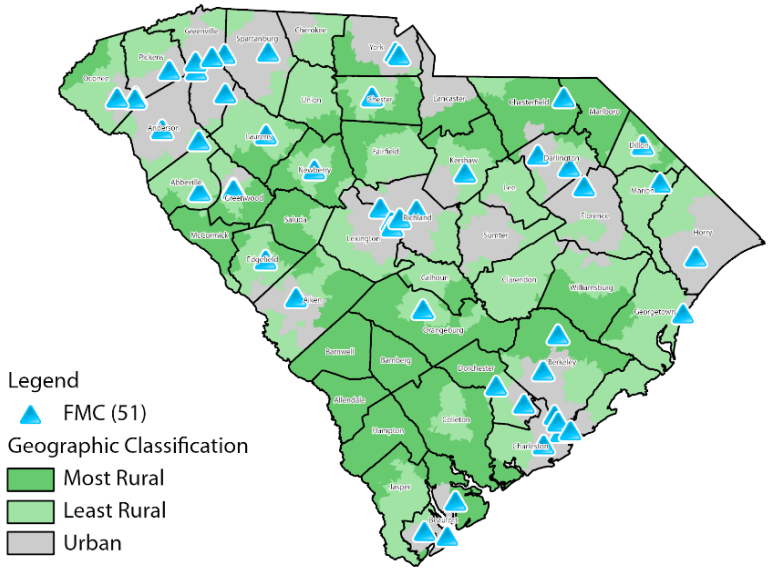
As shown in Appendix B, Figures 10, 11, and 12, a 20-minute service area was drawn around each facility to measure access.

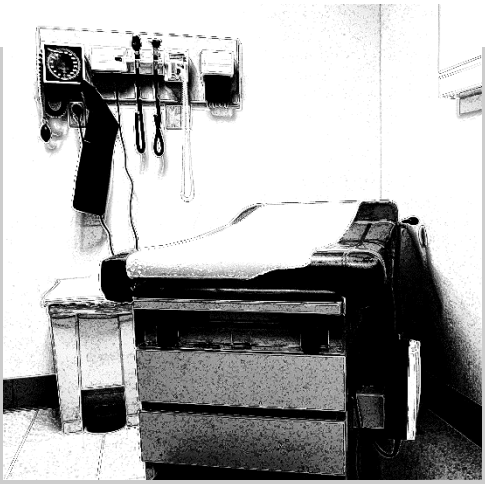
Since 2013, South Carolina's network of FMCs increased from 51 total facilities to 74, an increase of 45%. From 2013 to 2022, Most Rural ZCTAs saw the greatest increase in available facilities of over 230% (Table 5).

In 2013, residents in 221 ZCTAs (36 Most Rural, 40 Least Rural) were within 20 minutes of their nearest FMC (Figure 8). This accounted for almost 3.4 million residents.

Figure 8. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FMCs by Urban/Rural Classification and Map of FMC Locations, 2013

| ZCTAs: FMC 2013 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 40 | 77 |
| Most Rural | 36 | 100 |
| Urban | 145 | 25 |
| Total | 221 | 202 |

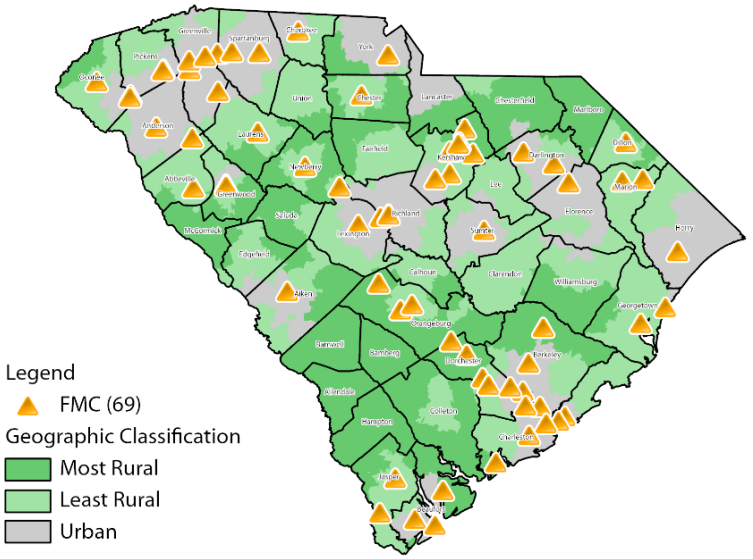


FMCs saw the greatest increase in facilities from 2013 to 2019, adding 18 facilities (6 in Most Rural areas) (Table 5). These additional facilities provided access to 34 more ZCTAs (15 Most Rural, 13 Least Rural) (Figure 9).

Figure 9. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FMCs by Urban/Rural Classification and Map of FMC Locations, 2019

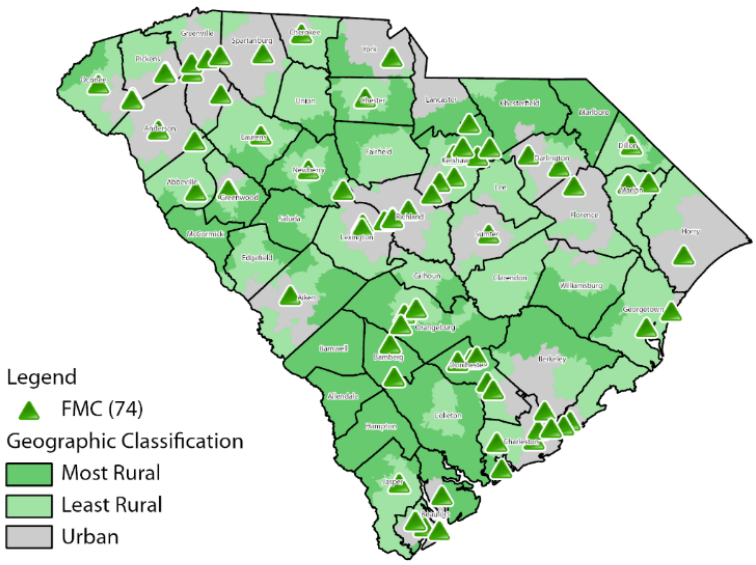
| ZCTAs: FMC 2019 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 53 | 64 |
| Most Rural | 51 | 85 |
| Urban | 151 | 19 |
| Total* | 255 | 168 |




From 2019 to 2022, FMCs again saw an increase in the number of available facilities, adding an additional location in a Most Rural ZCTA (Table 5); access remained largely the same for the state (Figure 10).

Figure 10. Table of ZCTAs covered within 20 minutes and more than 20 minutes from FMCs by Urban/Rural Classification and Map of FMC Locations, 2022

| ZCTAs: FMC 2022 | | |
|---|---|---|
| Geographic Classification | ≤20 Minutes | >20 Minutes |
| Least Rural | 53 | 64 |
| Most Rural | 52 | 84 |
| Urban | 149 | 21 |
| Total* | 254 | 169 |



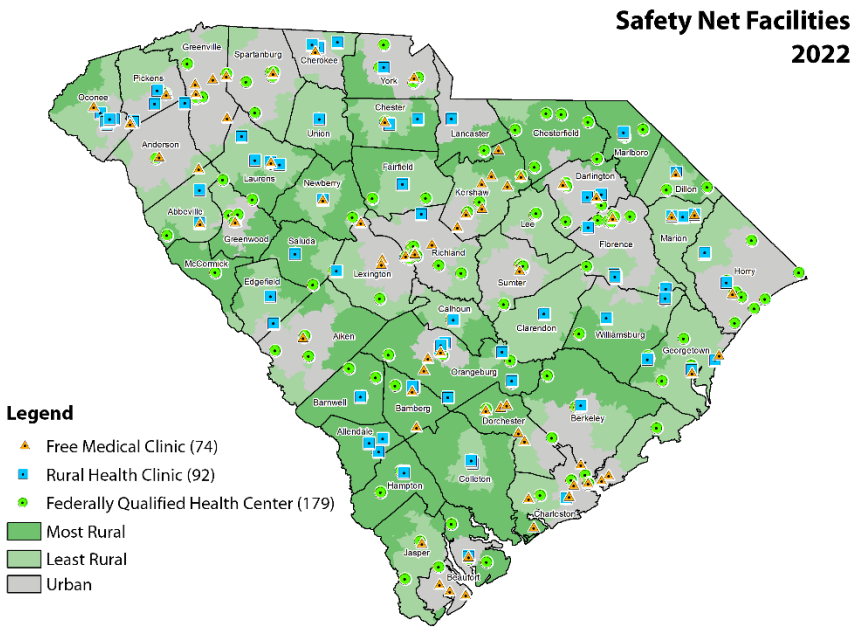
## Conclusions

In summary, even with the loss of some facility locations, South Carolina's health care safety-net has continued to expand primary care access in rural and underserved areas with its safety-net facilities by:

1. increasing the number of available FQHC and FMC facilities both by over 40% since 2013 (Table 5), and
2. increasing the number of available FMC facilities in the Most Rural ZCTAs by over 230% since 2013 (Table 5).

Figure 11 shows the location of all three safety-net facilities (FQHCs, RHCs, and FMCs) as of 2022. Visualizing the combined coverage of these safety-net facilities across the state (Figure 11) shows the importance of investing in each of the individual safety-net facility types. Safety-net facilities continue to play a pivotal role in helping provide care to the medically underserved rural population of South Carolina, and this Safety-Net Proviso has played an important role in ensuring access to care in these areas. There is still work to be done to address the health care needs of underserved South Carolinians. While all three safety-net providers (FQHCs, RHCs, and FMCs) effectively cover most of the Most Rural and Least Rural areas of the state, some areas are still outside of the typical maximum drive time of 20 minutes. Further work in ensuring access to the state's most vulnerable is required.

Figure 11. Safety Net Facility Locations for 2022



## Glossary

**American Community Survey (ACS)** - an annual survey program of several population datasets and reports created by the U.S. Census Bureau. (US Census Bureau, 2022)

**Federally Qualified Health Centers (FQHCs)** - community-based health centers that provide comprehensive primary health care and behavioral and mental health services to all patients regardless of their ability to pay or their health insurance status. (Doty et al., 2010)

**Free Medical Clinics (FMC)** - health care organizations that utilize a volunteer/staff model to provide a range of healthcare services which may include medical, dental, pharmacy, vision and/or behavioral health services to economically disadvantaged individuals. Such clinics are 501(c)(3) tax-exempt organizations or operate as a program component or affiliate of a 501(c)(3) organization. (SC Free Clinic Association, 2022)

**Geocoder** - an address locator; a dataset that stores the address attributes, associated indexes, and rules that define the process for translating nonspatial descriptions of places, such as street addresses, into spatial data that can be displayed as features on a map.

**GIS Road Network** - a system of interconnected transportation elements, such as streets (lines), that represent possible routes from one location to another. (Esri, 2022)

**Health Professional Shortage Area (HPSA)** - geographic areas or populations that have a shortage of primary, dental, or mental health care providers. (HRSA, 2022)

**Index of Relative Rurality (IRR)** - a continuous, relative index that combines frequently used census metrics with other measures of rurality to create index values that adhere to continuous scale, with the lowest values being the most urban and the higher being the most rural. (Waldorf & Kim, 2015)

**Medically Underserved Area (MUA)** - a geographic area with a lack of access to primary care services. Designation is based on the Index of Medical Underservice (IMU) The IMU is calculated based on the population to provider ratio, the percent of the population below the Federal Poverty Level, the percent of the population over age 65, and the infant mortality rate. The IMU is scaled from 0 to 100, where 0 represents completely underserved and 100 represents best served or least underserved. Areas with an IMU or 62 or less are designated as medically underserved. (HRSA, 2022)

**Population-weighted Centroid** – an alternative to the geometric centroid, which represents the geometric center of an area (county, census tract, etc.), the population-weighted centroid factors in the population of a given area, representing the center of population density.

**Rural Health Clinic (RHC)** - clinics providing primary care services to residents in rural, underserved communities; located in either a Geographic- or Population-based HPSA, a MUA, or Governor-Designated Secretary-Certified Shortage Area. (CMS, 2021. RHIhub, 2021)

**Underserved** – provided with inadequate service (Merriam-Webster Dictionary).

**ZIP Code Tabulation Areas (ZCTA)** - approximate area representations of U.S. Postal Service (USPS) five-digit ZIP Code service areas used by the Census Bureau to present statistical data from censuses and surveys. (US Census, 2010)

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# APPENDICES

## APPENDIX A. The Safety-Net Proviso

Proviso 33.22 (DHHS: Rural Health Initiative) - 2022-2023 Appropriations Bill H.5150

33.22. (DHHS: Rural Health Initiative) From the funds appropriated to the Department of Health and Human Services for the Rural Health Initiative in the current fiscal year, the department shall partner with the following state agencies, institutions, and other key stakeholders to implement these components of a Rural Health Initiative to better meet the needs of medically underserved communities throughout the state. The department may leverage any and all available federal funds to implement this initiative. Recurring and non-recurring funding for the Rural Health Initiative may be carried forward by the department and expended for the same purpose.

(A) The Department of Health and Human Services shall incentivize the development of primary care access in rural and underserved areas, leverage Medicaid spending on Graduate Medical Education (GME) by implementing methodologies that support recommendations contained in the January 2014 report of the South Carolina GME Advisory Group, and continue to leverage the use of teaching hospitals to ensure rural physician coverage in counties with a demonstrated lack of adequate access and coverage through the following provisions:

(1) Rural and Underserved Area Provider Capacity - the department shall partner with the University of South Carolina School of Medicine to develop a statewide Rural Health Initiative to identify strategies for significantly improving health care access, supporting physicians, and reducing health inequities in rural communities. In addition, the department shall also contract with the MUSC Hospital Authority in the amount of $1,500,000, and the USC School of Medicine in the amount of $2,000,000 to further develop statewide teaching partnerships. The department shall also expend $5,000,000 in accordance with a graduate medical education plan developed cooperatively by the Presidents or their designees of the following institutions: the Medical University of South Carolina, the University of South Carolina, and Francis Marion University.

(2) Rural Healthcare Coverage and Education - The USC School of Medicine, in consultation with statewide rural health stakeholders and partners, shall continue to operate a Center of Excellence to support and develop rural medical education and delivery infrastructure with a statewide focus, through clinical practice, training, and research, as well as collaboration with other state agencies and institutions. The Center shall submit to the department an annual spending plan centered on efforts to improve access to care and expand healthcare provider capacity in rural communities. Upon approval of the annual spending plan, the department shall authorize at least $3,000,000 to support center staffing as well as the programs and collaborations delivering rural health research, the ICARED program, workforce development scholarships and recruitment, rural fellowships, health education development, and/or rural practice support and education. Funding released by the department pursuant to this section must not be used by the recipient(s) to supplant existing resources already used for the same or comparable purposes. No later than February first of the current fiscal year, the USC School of Medicine shall report to the Chairman of the House Ways and Means Committee, the Chairman of the Senate Finance Committee, and the

Director of the Department of Health and Human Services on the specific uses of funds budgeted and/or expended pursuant to this provision.

(3) Rural Medicine Workforce Development - The department, in consultation with the Medical Education Advisory Committee (MEAC), shall support the development of additional residency and/or fellowship slots or programs in rural medicine, family medicine, and any other appropriate primary care specialties that have been identified by the department as not being adequately served by existing Graduate Medical Education programs. The department shall ensure that each in-state member of the Association of American Medical Colleges is afforded the opportunity to participate in MEAC. New training sites and/or residency positions are subject to approval as specified by the Accreditation Council for Graduate Medical Education (ACGME). The department may also accept proposals and award grants for programs designed to expose resident physicians to rural practice and enhance the opportunity to recruit these residents for long-term practice in these rural and/or underserved communities. Up to $500,000 of the recurring funds appropriated to the department for the Rural Health Initiative may be used for this purpose. Additionally, the department shall use up to $200,000 of the recurring funds appropriated for the Department of Aging's Geriatric Physicians Loan Forgiveness program.

(4) Statewide Health Innovations - At least $2,500,000 must be expended by the department to contract with the USC School of Medicine and at least $1,000,000 to Clemson University to develop and continue innovative healthcare delivery and training opportunities through collaborative community engagement via ICARED, Clemson Rural Health Programming, and other innovative programs that provide clinical services, mental and behavioral health services, children's health, OB/GYN services, and/or chronic disease coverage gaps. In consultation with statewide rural health stakeholders and partners, the department must ensure collaborative efforts with the greatest potential for impact are prioritized.

(5) Maternal Mortality Reduction - Prior to the expiration of the COVID-19 public health emergency, the department shall ensure that 12-month postpartum coverage is preserved by making the election offered pursuant to Section 1902(e)(16) of the Social Security Act. The Department of Health and Human Services shall collaborate with the South Carolina Maternal Mortality and Morbidity Review Committee to develop a method of evaluating the effectiveness of this provision.

(6) Rural Health Network Revitalization Project - For the purpose of establishing self-sustaining rural health networks that will improve care delivery in rural communities, funds appropriated for Rural Health Network Revitalization shall be expended, in consultation with the Director of Department of Health and Human Services, by the South Carolina Center for Rural and Primary Healthcare within the University of South Carolina School of Medicine to provide material support, facilitation, technical assistance, and other resources to rural communities seeking to create or renew their rural health networks. The Center shall submit to the department an annual spending plan. Upon approval of the annual spending plan, the Center shall:

(a) be authorized to provide funding to such communities for a time to establish and support the work,

(b) work with partners across the State to implement evidence-based models of community development and healthcare delivery,

(c) evaluate the implementation and impact of the network development work undertaken; and

(d) facilitate the development, implementation, and evaluation of alternative payment models with payors within the State.

No later than February first of the current fiscal year, the South Carolina Center for Rural and Primary Healthcare within the University of South Carolina School of Medicine shall report to the Chairman of the House Ways and Means Committee, the Chairman of the Senate Finance Committee, and the Director of the Department of Health and Human Services on the specific uses of funds budgeted and/or expended pursuant to this provision.

(B) The department shall continue to investigate the potential use of DSH and/or any other source of funds in order to improve access to medical services in one or more rural communities identified by the department in which such access has been determined to be unstable or at-risk.

(1) In the current fiscal year, the department is authorized to establish a DSH pool, or support pool from other available funds, for this purpose and/or if deemed necessary to implement transformation plans for which conforming applications were filed with the department pursuant to this or a previous hospital transformation or rural health initiative proviso, but for which additional negotiations or development were required. The department, at its discretion, may cap or limit the amount of available funds at any time. An emergency department or facility that is established within 35 miles of its sponsoring hospital pursuant to this or a previous hospital transformation or rural health initiative proviso and which receives dedicated funding pursuant to this proviso shall be exempt from any Department of Health and Environmental Control Certificate of Need requirements or regulations. Any such facility shall participate in the South Carolina Telemedicine Network.

(2) The department may receive proposals from and provide financial support for capital expenditures associated with the replacement/renovation of two or more rural hospitals, or addition of critical health services. Such proposals must be submitted by a hospital system approved to advise a rural transformation project, and the project must be subject to ongoing advisement by the submitting facility, or subject to acquisition by the advising facility. Proposals must demonstrate that the rural hospital has been properly sized to meet the needs of its service area and support a sustainable model of care in a rural setting. Priority shall be given to active health service districts and proposals that replace significantly aged physical plants; that preserve access to inpatient, outpatient, and emergency services; or that improve access to behavioral health services. The department shall require such written agreements which may require project

milestone, last-dollar funding, and other stipulations deemed necessary and prudent by the department to ensure the funds are used to improve health outcomes and ensure rural health access.

(C) The Revenue and Fiscal Affairs Office and the Area Health Education Consortium's Office of Healthcare Workforce Analysis and Planning shall provide the department with any information required by the department in order to implement this proviso in accordance with state law and regulations. Not later than January 1, of the current fiscal year, the department shall submit to the President of the Senate and Speaker of the House of Representatives an evaluation of the state's safety-net providers that includes, at a minimum, Federally Qualified Health Centers, Rural Health Clinics, and to the extent applicable to funding received by the state, free clinics.

## APPENDIX B. Additional Table and Figures

Table 1. Index of Relative Rurality Classifications, Break Values, and ZCTA Count

| IRR Classification | Break Values | ZCTA Count |
|---|---|---|
| Urban | 0.0% - 76.3% | 172 |
| Least Rural | 76.4% - 85.7% | 117 |
| Most Rural | 85.8% - 100% | 136 |

Figure 1. Medically Underserved Areas (MUA). HRSA, 2022

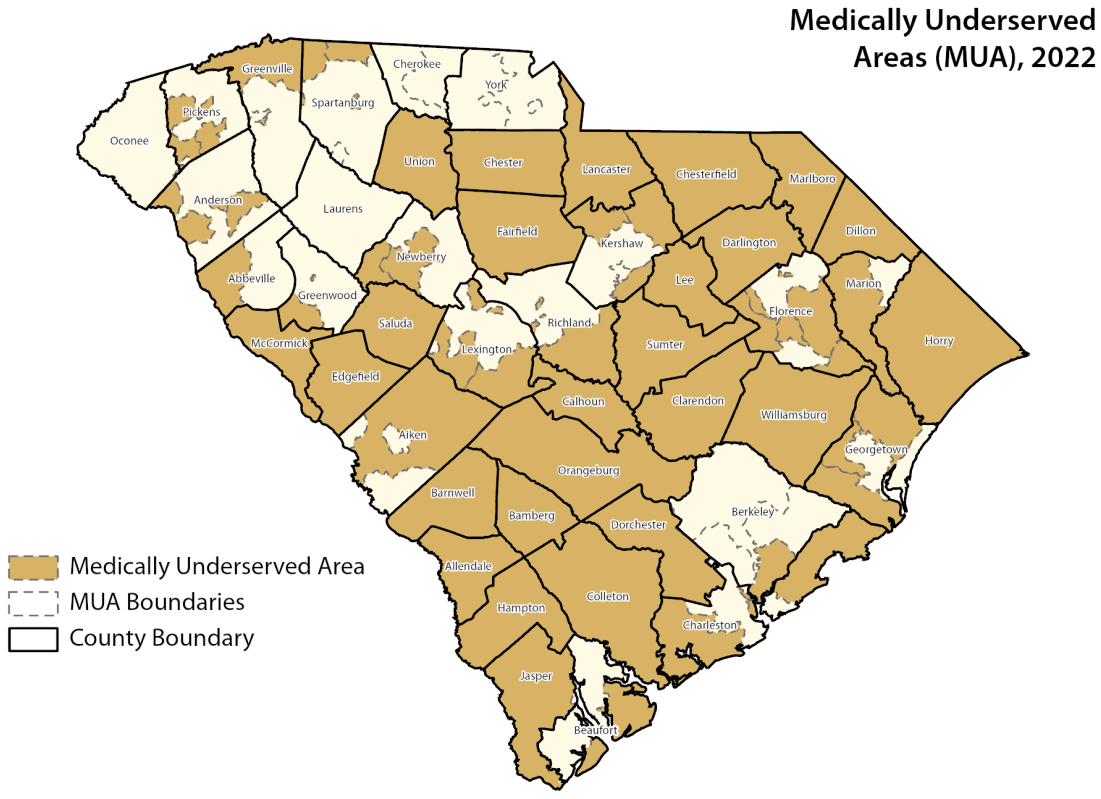


Figure 2.Primary Care Health Professional Shortage Areas (HPSA). HRSA, 2022

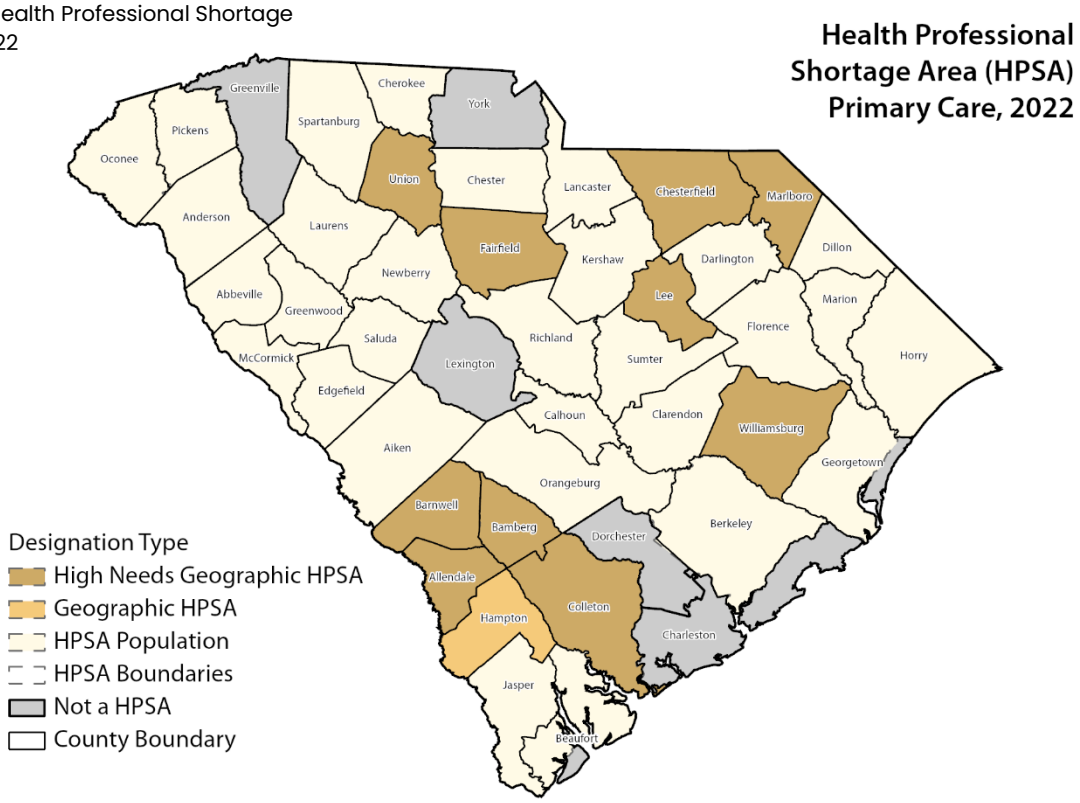



Figure 3. South Carolina Index of Relative Rurality

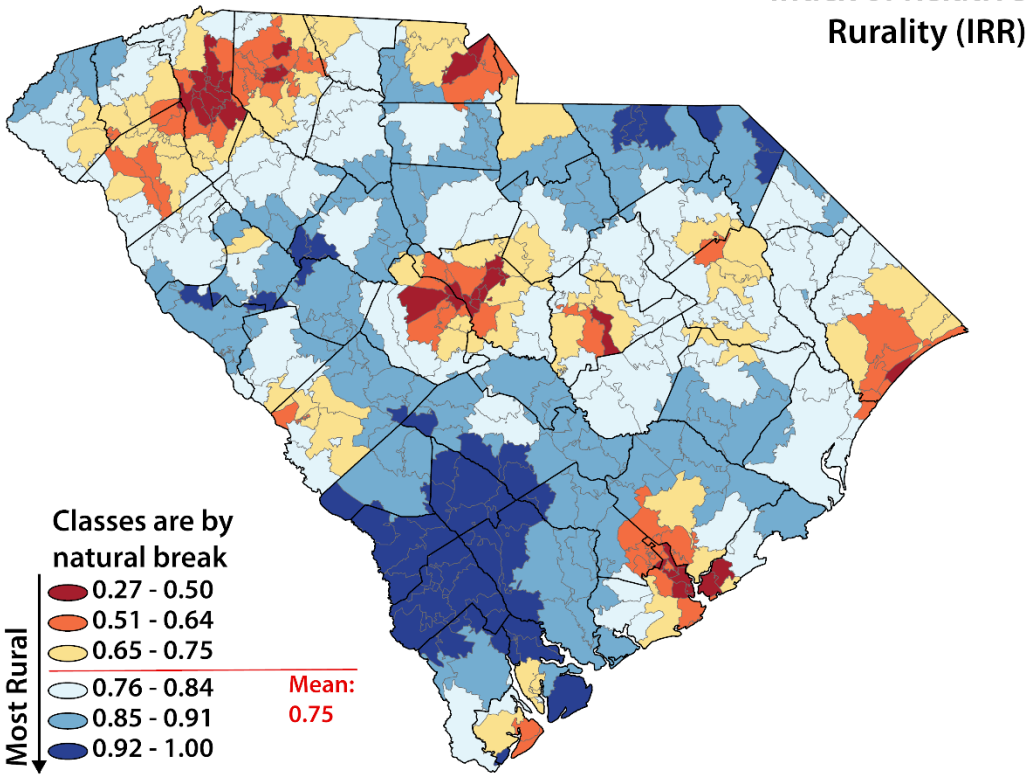


Figure 4.
FQHC Locations for 2013 with 20-Minute Service Area

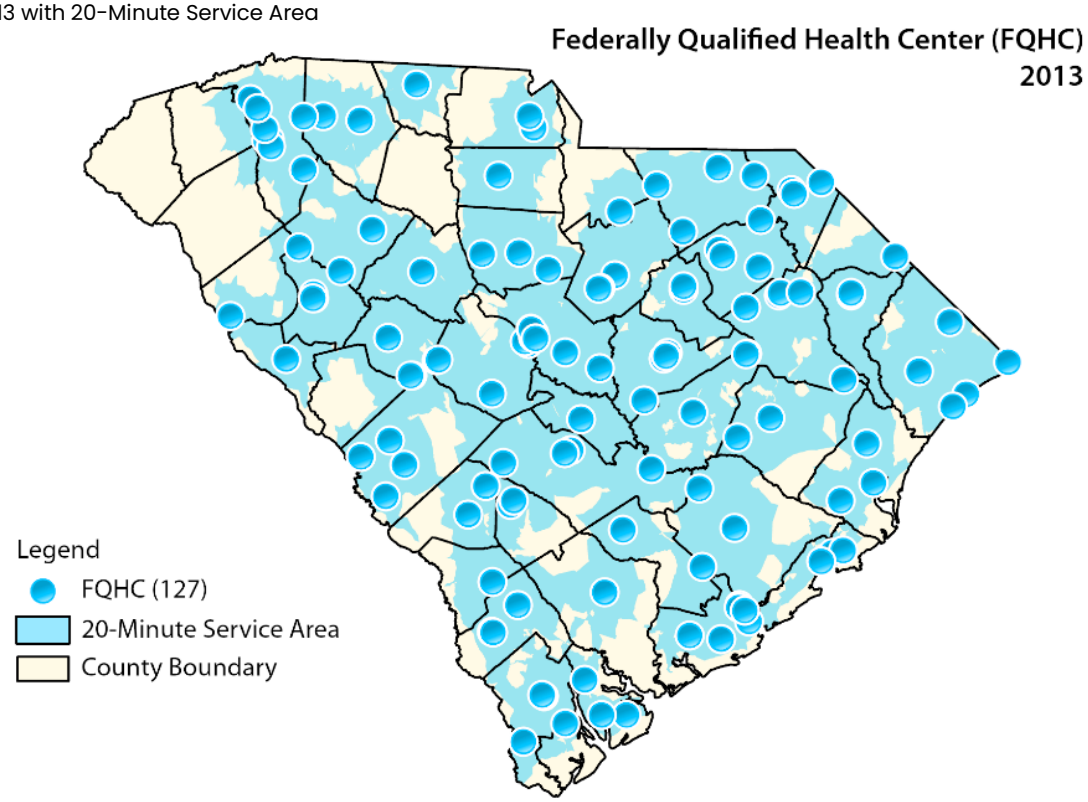



Figure 5.
FQHC Locations for 2019
|with 20-Minute Service Area

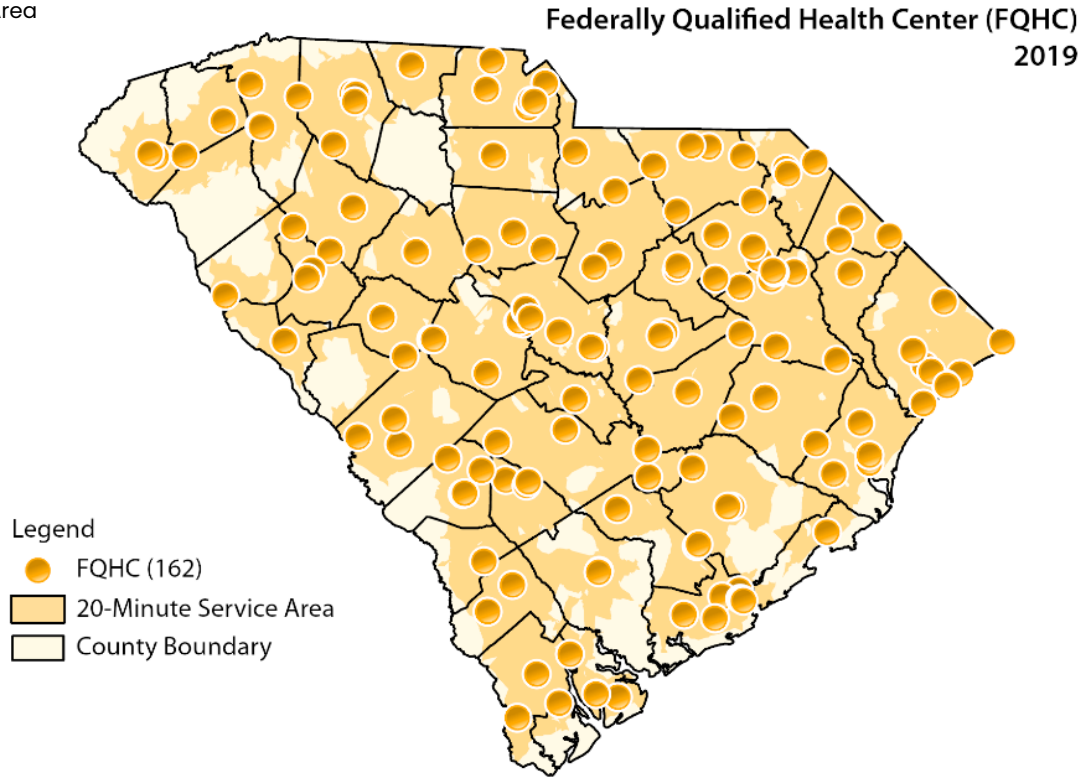


Figure 6. FQHC Locations for 2022 with 20-Minute Service Area

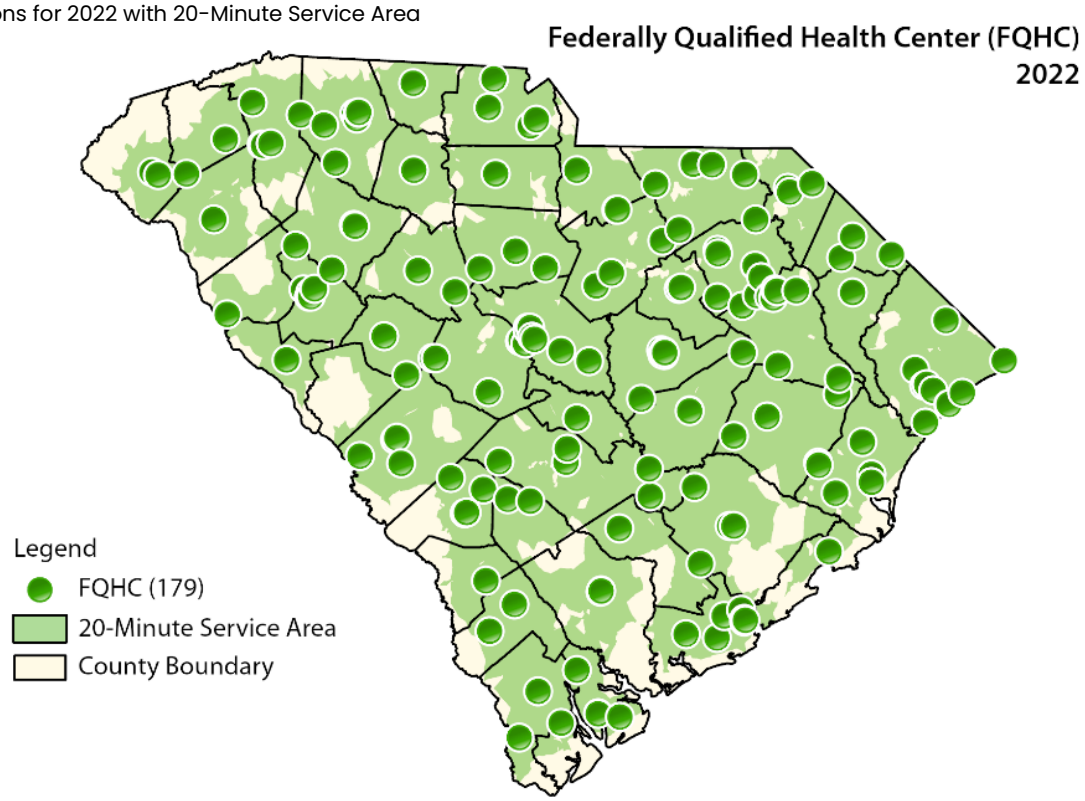



Figure 7. RHC Locations for 2013 with 20-Minute Service Area

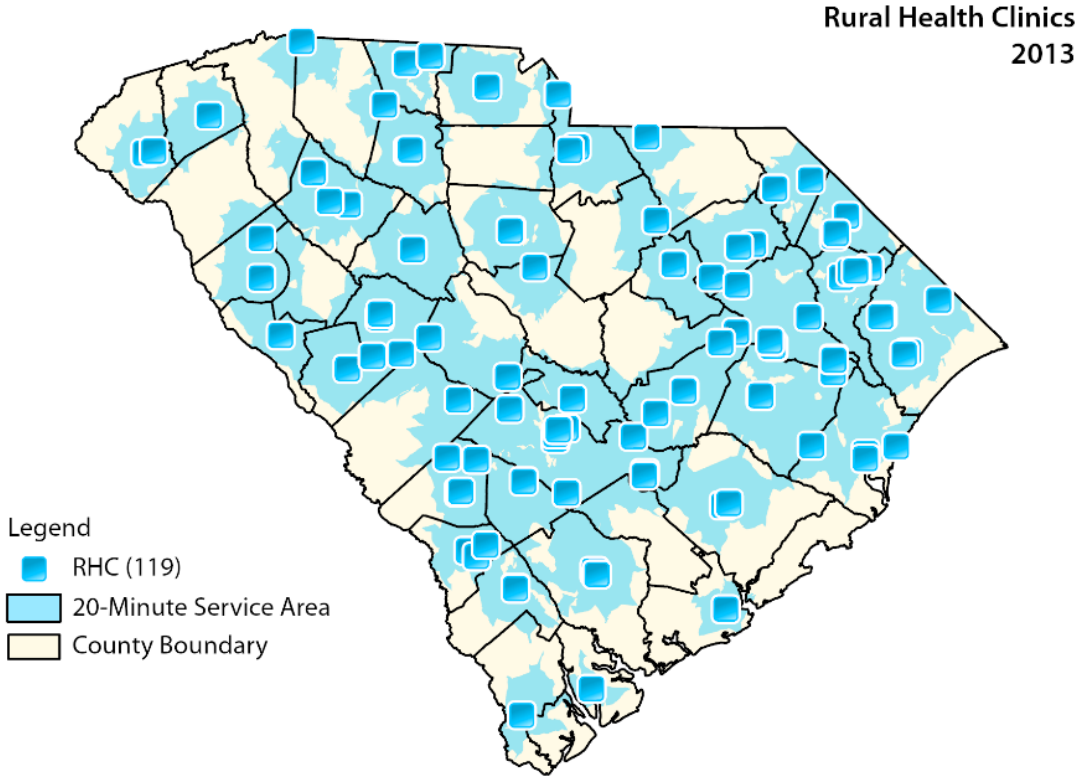


Figure 8. RHC Locations for 2019 with 20-Minute Service Area

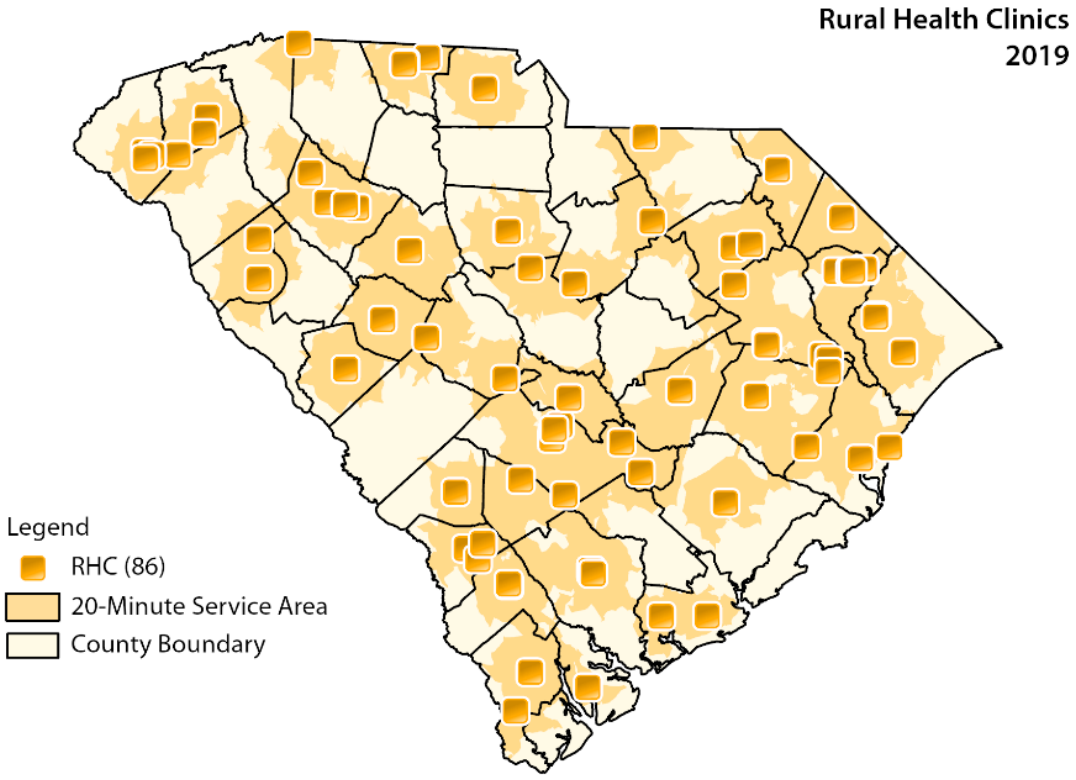



Figure 9. RHC Locations for 2022 with 20-Minute Service Area

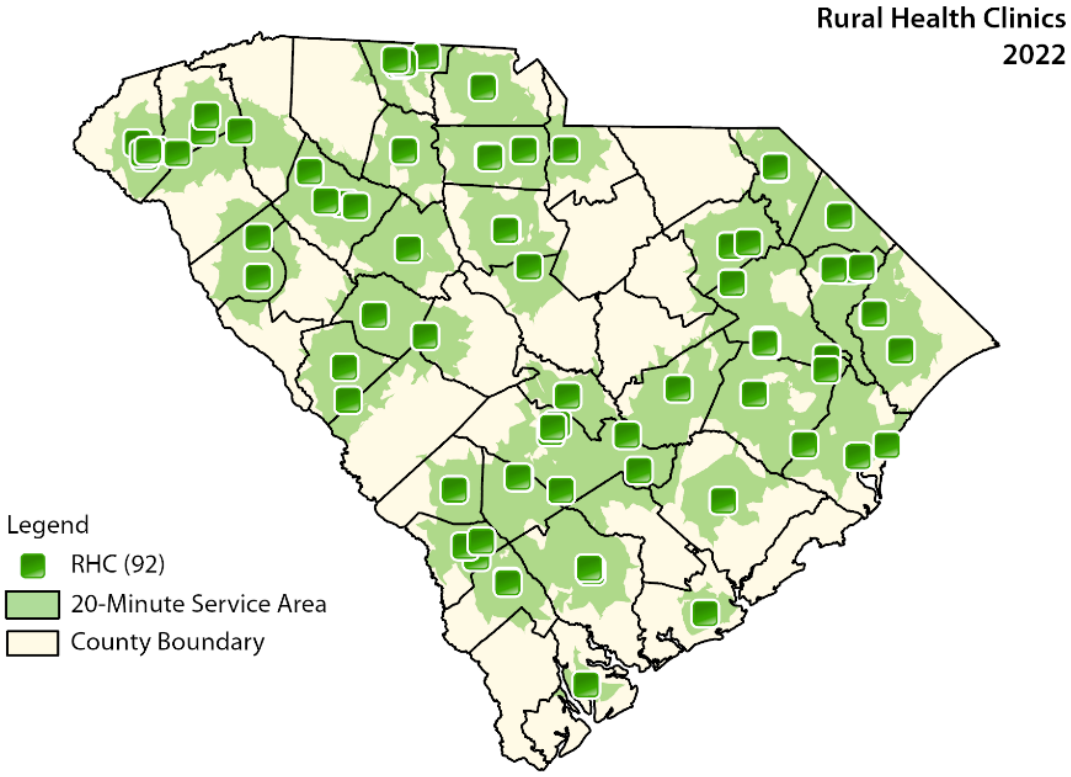


Figure 10. FMC Locations for 2013 with 20-Minute Service Area

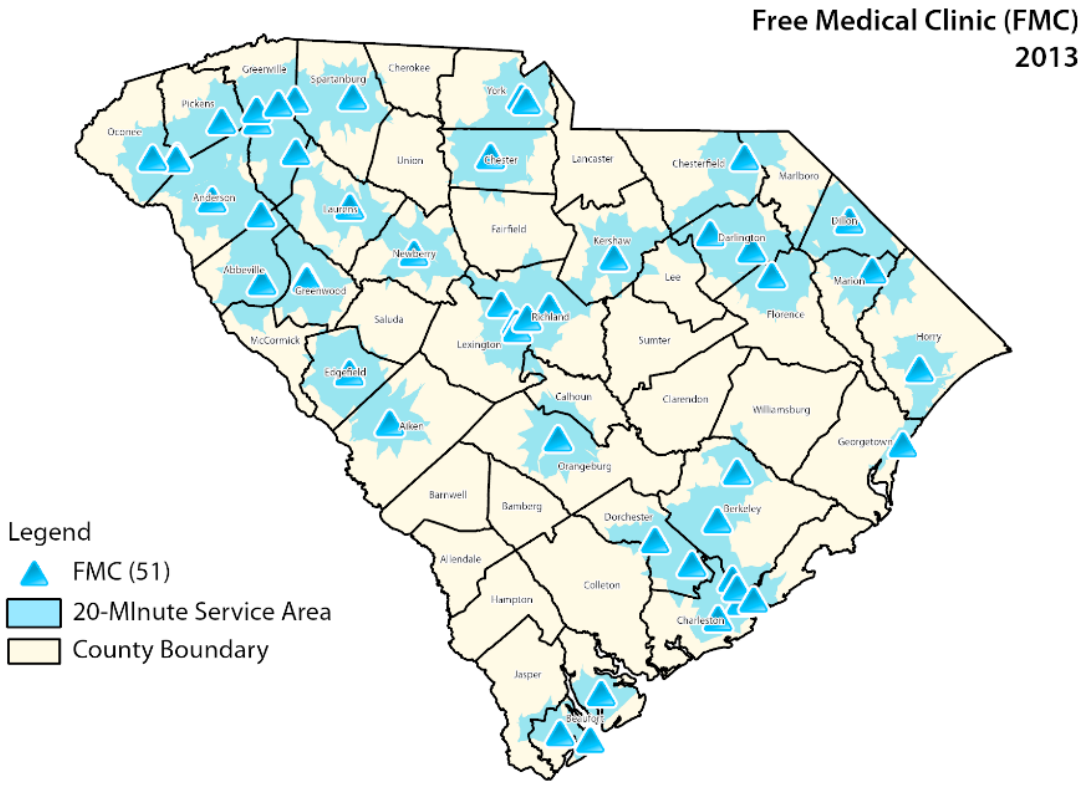



Figure 11. FMC Locations for 2019 with 20-MInute Service Area

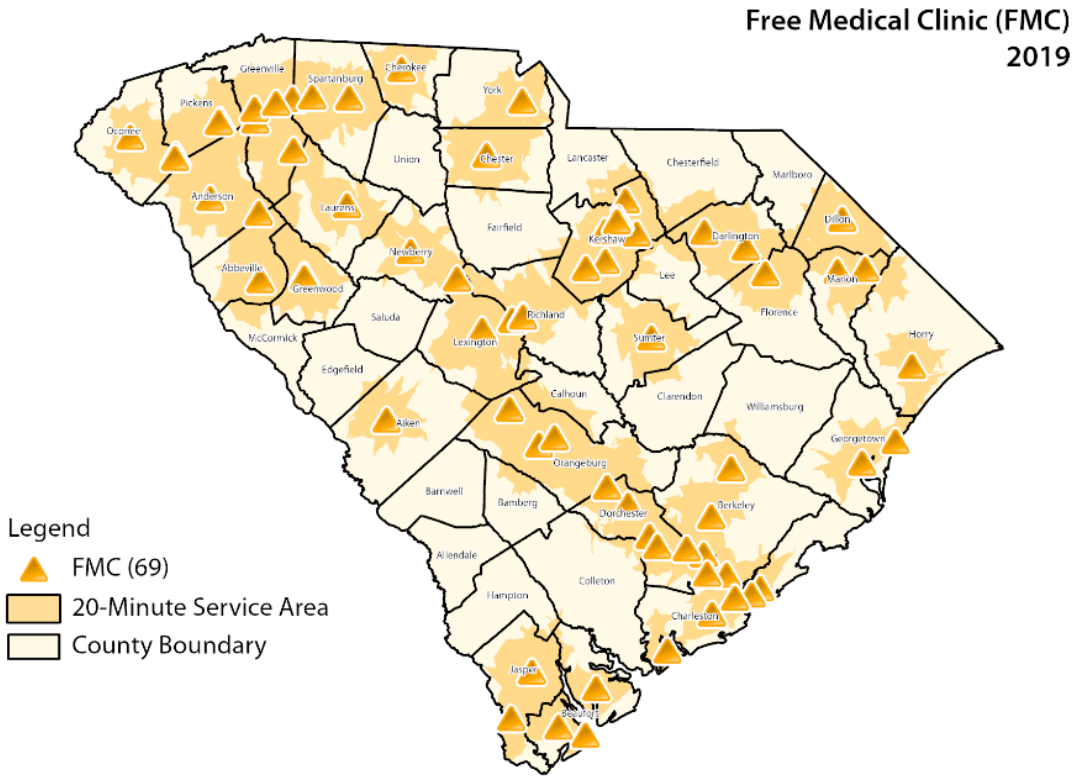
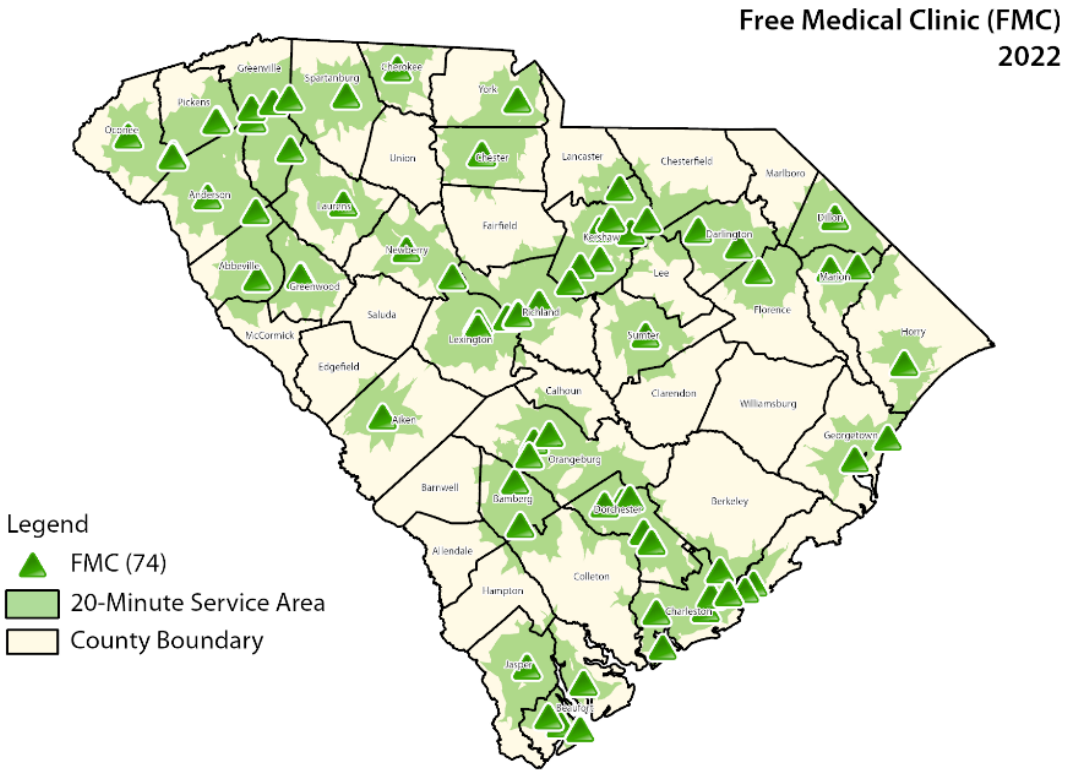


Figure 12. FMC Locations for 2022 with 20-Minute Service Area

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