



# Florida Feasible, Actionable, Impactful, and Relevant (F.A.I.R.) EMS Measurement Project Rural QI Assessment Report

Florida Department of Health  
Emergency Medical Services Section  
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## EXECUTIVE SUMMARY



Manatee County Florida Community Paramedicine

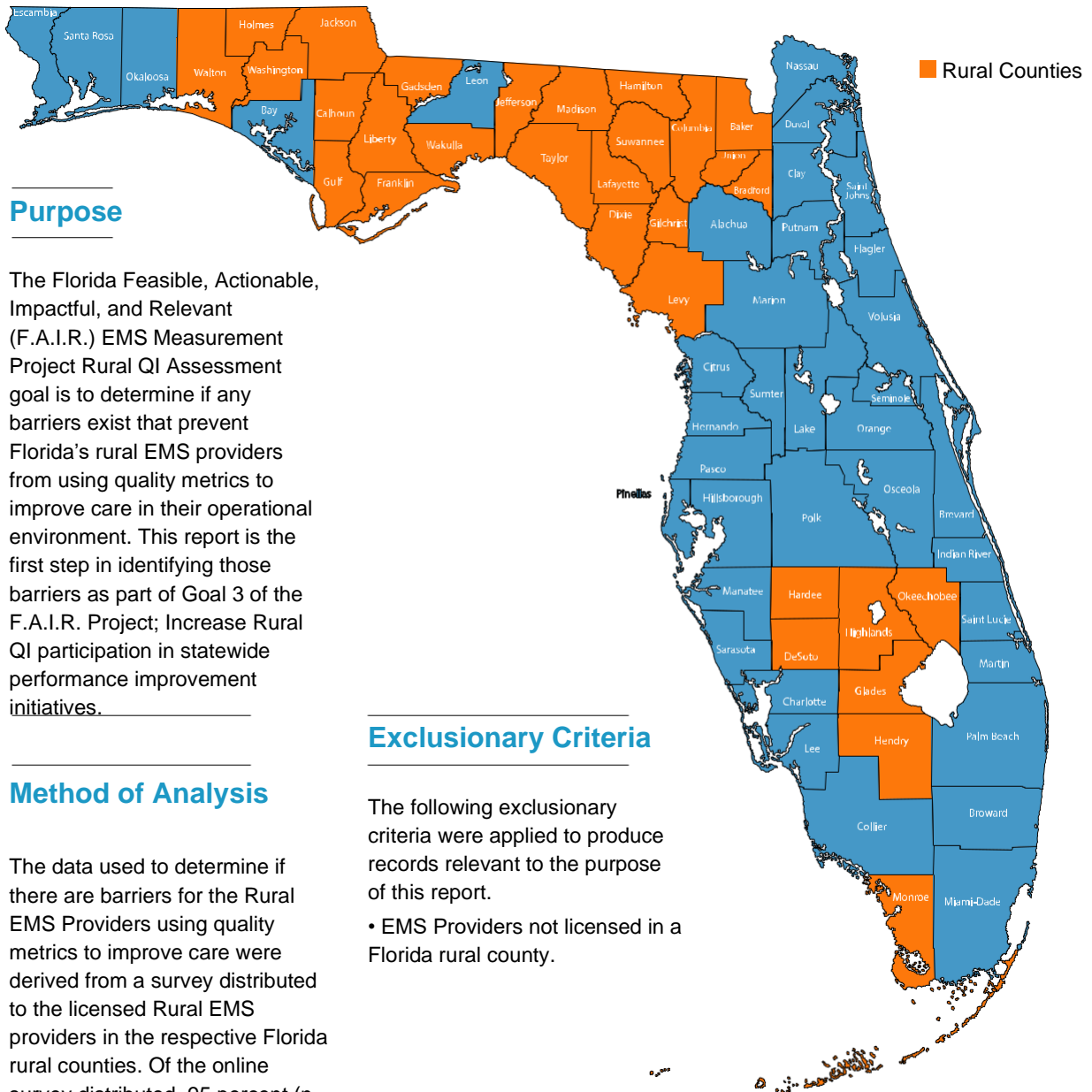
Executive Summary – The legislative intent of section 401.211, Florida Statutes, is to ensure that emergency medical services in Florida deliver quality patient care, regardless of where that care is delivered. Only 3.36 percent of Florida’s population live in Rural counties, with a poverty rate of 20.2 percent, compared with 13.4 percent in urban areas of the state (USDA-ERS). The quality of the patient care delivered in the back of the ambulance is expected to be the same, regardless of the patient’s ability to pay for those services. The EMS Services in Rural America: Challenges and Opportunities Policy Brief stated, “Rural EMS is often the only guaranteed access to health services, and ultimately, the safety net for underserved rural communities” (Nikki King).

It is reported that approximately 111.8 million United States tourists visited Florida in 2018, along with 10.8 million overseas visitors and 3.4 million Canadians. (Press, 2019) The tourist business increases the population every year and it must be noted, that in order to reach the urban tourist areas of the state, you must travel through a rural county. (Allen Parrish, Director, Bradford County EMS).

Although Florida Statute places the responsibility of emergency medical services (EMS) quality assurance on the EMS medical director, levels of EMS prehospital quality assurance responsibility are shared by the EMS service providers, hospitals, local Quality Assurance Committees as well as the State Office of EMS. The State Office of EMS is working to develop a statewide EMS Quality Improvement Program. Currently, the State utilizes evidence-based guidelines that include but are not limited to pediatric, cardiac arrest, Stroke, STEMI and Trauma Care.

# INTRODUCTION

As of the 2018 Census projections, 30 of Florida's 67 counties are considered rural based on the statutory definition of an area with a population density of less than 100 individuals per square mile or an area defined by the most recent United States Census as rural. These 30 counties account for over 34.3 percent of Florida's nearly 54,000 square miles of land area. Rural counties are located primarily in the Florida Panhandle, north central Florida, the south-central portion of the state, and the Florida Keys. The rural counties account for an approximate population of 716,213 (3.4%) of Florida's over 21 million citizens.



## Purpose

The Florida Feasible, Actionable, Impactful, and Relevant (F.A.I.R.) EMS Measurement Project Rural QI Assessment goal is to determine if any barriers exist that prevent Florida's rural EMS providers from using quality metrics to improve care in their operational environment. This report is the first step in identifying those barriers as part of Goal 3 of the F.A.I.R. Project; Increase Rural QI participation in statewide performance improvement initiatives.

## Method of Analysis

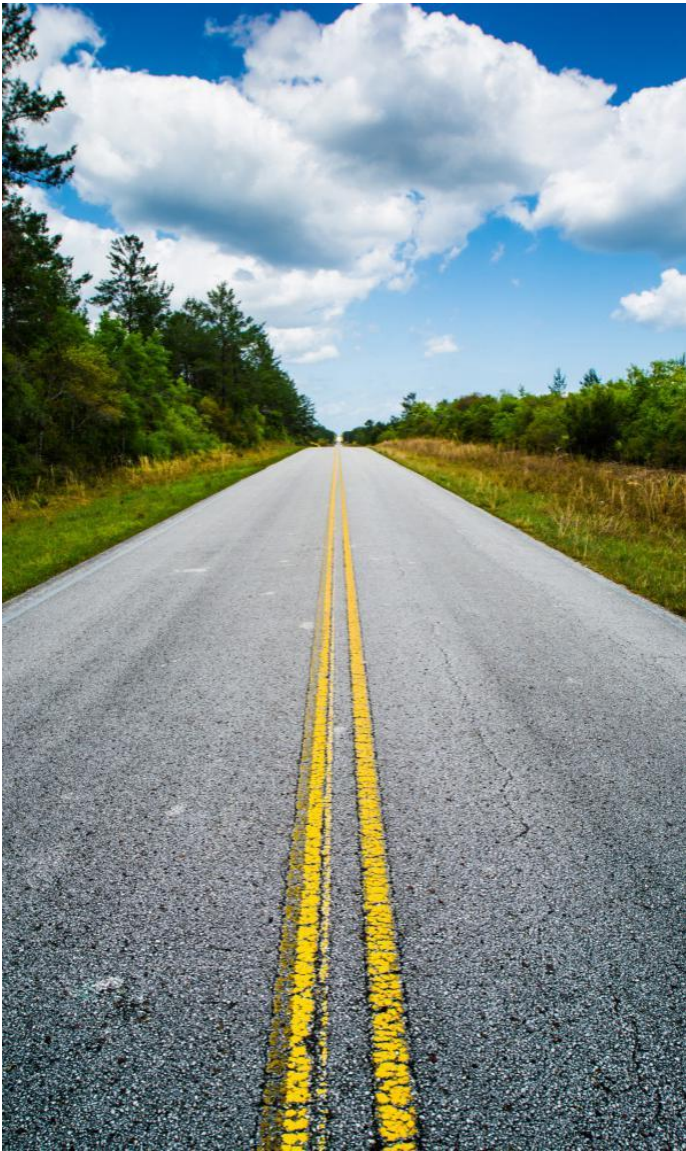
The data used to determine if there are barriers for the Rural EMS Providers using quality metrics to improve care were derived from a survey distributed to the licensed Rural EMS providers in the respective Florida rural counties. Of the online survey distributed, 95 percent (n=40) were completed. Only two providers did not return the survey. Six of Florida's thirty rural counties have more than one EMS provider; these are Gadsden, Gulf, Hendry, Highlands, Monroe, and Walton counties.

## Exclusionary Criteria

The following exclusionary criteria were applied to produce records relevant to the purpose of this report.

- EMS Providers not licensed in a Florida rural county.

# ASSESSMENT RESULTS



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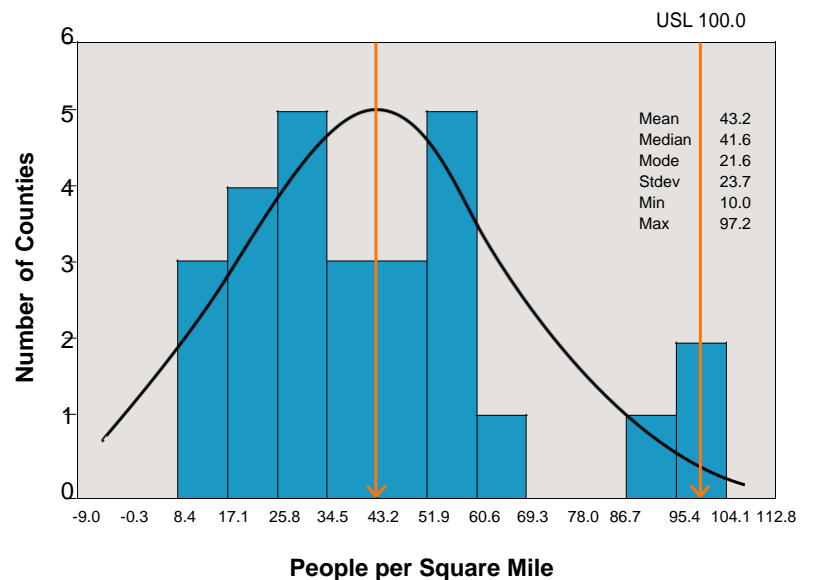
## Geographical Resource Considerations

The U.S. Census Bureau and the state of Florida use a definition based on population density and other measures of development density when identifying urban vs rural areas. (Michael Ratcliffe, 2016) The U.S. Census Bureau defines rural as what is not urban—that is, after defining individual urban areas, rural is what is left. The average size of a rural Florida county is 682 square miles.

## Population Considerations

The following chart displays the distribution ratio of population per square mile. Only three counties had a ratio greater than 86 per square mile. Additionally, these three counties accounted for 23 percent of the total Florida rural population (769,954).

Dispersion of Florida Rural County Population per Square Mile



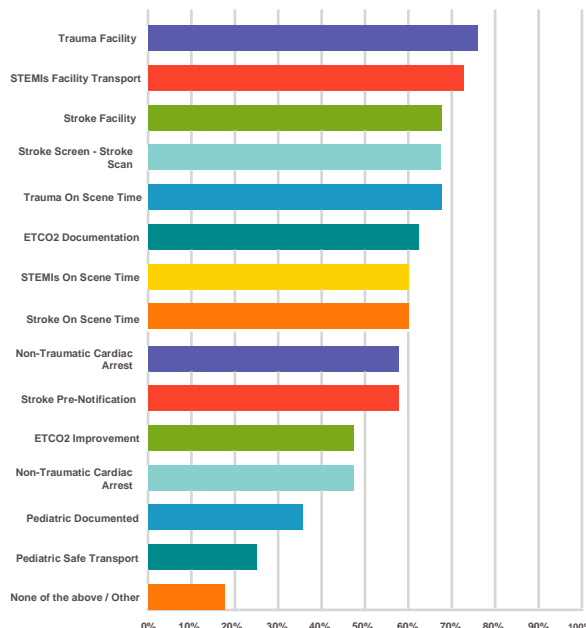


## Rural County EMS Quality Improvement Assessment Results

The online survey was distributed by email to all Florida rural EMS providers. Florida rural EMS providers comprise 53 percent non-fire-based EMS services, including governmental non-fire, hospital, private, not-for-profit and private for-profit EMS systems. The remaining 47 percent of providers are governmental fire-based EMS systems.

An analysis was completed of the returned survey responses from 38 Florida rural EMS providers. It was noted that all the rural providers use some form of quality metrics. However, 50 percent identified the following barriers: resources, funding and enough staff to adequately collect, evaluate and report quality metrics to improve care in their services.

**Q10 Below is a list of the Florida State specific quality measures, please select the measures that your service currently monitors:**



### The Florida Emergency Medical Service Advisory Council

Advisory Council developed consensus quality measures for appropriate hospital destination of specific time-based emergencies: such as trauma alerts, stroke, ST-elevation myocardial infarction (STEMIs), and total scene time for same time-based emergencies. The results of the survey indicated that the appropriate hospital destination for trauma alerts and STEMIs was the most monitored. While total scene time for the time-based emergencies was the third most frequently used measure.

The rural providers were also asked about their use of the EMS Compass measures. The EMS Compass initiative engaged a wide range of EMS stakeholders to develop performance measures that are relevant to EMS agencies, regulators, and patients. The measures are based on the latest version of the National EMS Information System (NEMSIS). The results of the survey indicated that the rural providers' top three of the eighteen Compass measures being monitored are stroke assessment (85%), initial pain documented in trauma (61%) and reassessment of pain in trauma (59%).

Florida's rural counties are served by 53 percent non-fire-based EMS, including governmental non-fire, hospital, private, not-for-profit and private for-profit EMS providers. The remaining 47 percent of providers are governmental fire-based EMS. The poverty rate in rural counties is 19.8 percent compared to urban counties at 13.9 percent and 13 percent of all Florida residents are uninsured (Kaiser, 2017). This table demonstrates the uninsured rates in Florida's rural counties. Most, if not all rural EMS providers rely on their county taxes and/or fees for funding their services and the poverty level of the county could contribute to their lack of funding for implementing quality measures.

### Uninsured Rates in FL Rural Counties

County	Percent Used
Bradford	19%
Calhoun	21%
Columbia	20%
Franklin	26%
Hendry	33%
Holmes	21%
Jackson	18%
Madison	20%
Monroe	27%
Suwannee	24%
Union	16%
Washington	20%

Source: Robert Wood Johnson County Health Rankings 2018

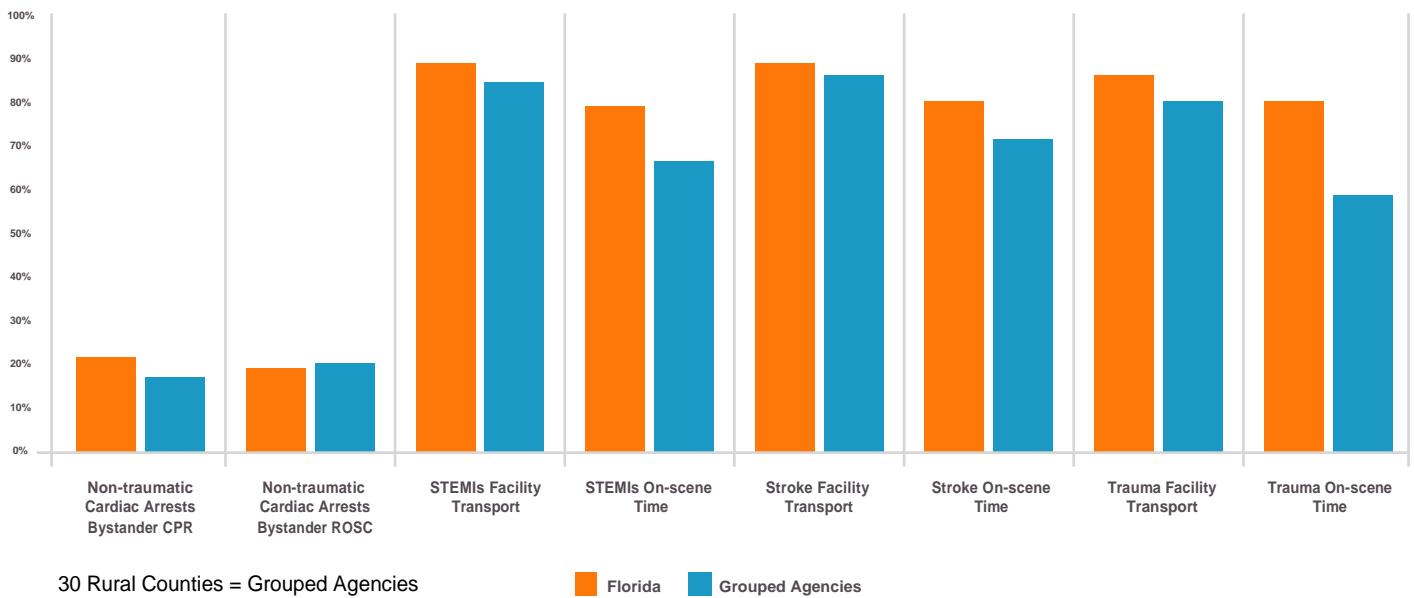
The most important performance measures monitored by these providers directly relate to funding: percentage of transports vs non-transports (76%) and percentage of accounts receivable in less than 90 days (74%).

All but one of Florida’s 30 rural counties are designated as primary care Health Professional Shortage Areas (HPSA). All of Florida’s rural counties have designated medically underserved areas or populations. Public transportation and availability of primary care physicians limits access to health care, resulting in Florida’s rural EMS providers being the first and sometimes only access to healthcare for these underserved areas.

Only 24 percent of the providers use a dashboard-style format to report metrics; primarily for regular staff meetings. Survey respondents (59%) reported a desire to include dashboard-style reports and would like to have access to more real-time reports. These results indicate there was no consistent understanding of the types of dashboards available and their applicability.

The survey reported that only 12 percent of Florida’s rural counties actively participate in the department’s quality improvement/biosurveillance platform, Biospatial. This platform currently includes all 14 EMS Compass measures and eleven additional measures that have been approved by Florida’s EMS Advisory Council’s (EMSAC) Data Committee. The chart below represents eight selected measures.

### Performance By Measures

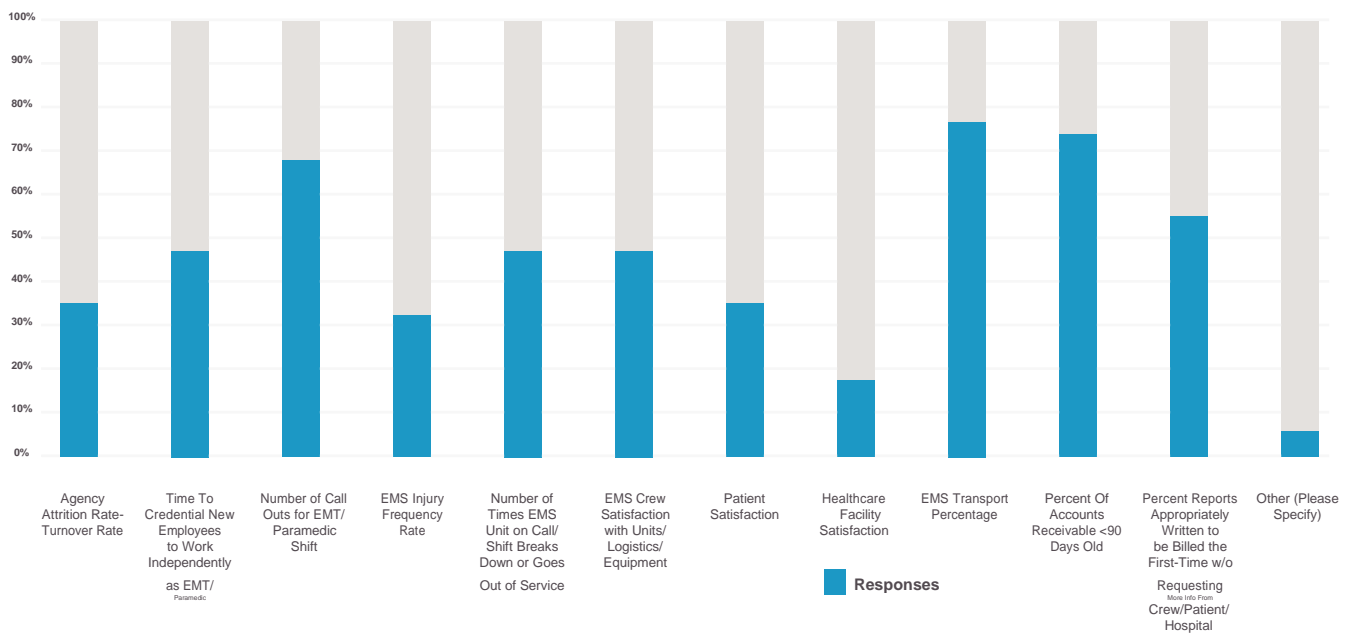


Currently 10 percent of the rural providers participate in the Cardiac Arrest Registry to Enhance Survival (CARES). CARES is a collaborative effort of the Centers for Disease Control and Prevention (CDC) and Emory University, Woodruff Health Sciences. The goal of CARES is to improve survival from sudden cardiac death. The registry is designed to help local EMS administrators and medical directors identify who is affected, when and where cardiac arrest events occur, which elements of the system are functioning properly, and which elements are not, and how changes can be made to improve cardiac arrest outcomes. CARES uses an Internet database system that reduces time involved in registering out-of-hospital cardiac arrest (OHCA) events, tracking patient outcomes with hospitals prospectively, and response time intervals associated with First Responder and EMS agencies.



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### Does your agency monitor any of the following performance measures?



The number of call outs for EMT/Paramedic shift was the third top measure in this survey. The 2018 EMS Survey reported that nine (21%) of the rural EMS providers were in the top twenty-five percent of all Florida agencies reporting paramedic/EMT shortages and the highest attrition rates. During an online discussion with the rural EMS agencies about this issue, Chief Allen Parrish, Bradford County EMS shared this strategy:



While all of us understand that the small rural county EMS agencies cannot afford to pay what the larger county agencies can afford to pay due to tax base and limited revenue, I have found that it does not require an excessive amount to recruit and retain quality personnel. We have simply demonstrated to our administration that a solid step plan for periodic raises and competitive pay is actually more cost effective than continuing to be a training ground only to lose good employees to larger areas once they have some experience for their resume.

**Chief Allen Parrish**



## FINDINGS AND RECOMMENDATIONS

When asked what could improve their quality improvement efforts at the local, state or national level the following responses were collected by the survey:

- 45% The ability to share data and obtain patient outcomes from hospitals
- 34% The need for resources and/or staff
- 21% Improved patient care reporting systems, training and funding

This is the first step in Goal 3 of the F.A.I.R. Project to increase Rural QI participation in statewide performance improvement initiatives. The F.A.I.R. EMS Measurement Project will work to increase the 12 percent of rural EMS providers using the statewide system for performance measurement to 100 percent. The F.A.I.R. EMS Measurement Project will continue work to validate and increase the number of measures being used, by identifying rural-relevant measures, and working to alleviate the existing barriers that prevent Florida's rural EMS providers from using quality metrics to improve care in their operational environment.

### F.A.I.R. EMS Measurement Project - Rural EMS QI Assessment Recommendations

The F.A.I.R. Steering Committee, based on the results of this inclusive survey, have compiled recommendations that will have a positive impact on the quality improvement efforts of rural EMS providers across Florida. These recommendations utilize existing resources, the enhancement of existing services/resources and proposes the establishment of new services/resources. The Steering Committee strongly feels that with the adoption of these recommendations the current high-quality standard of care provided in rural Florida will be further improved.

#### Recommendation 1 | Resource Availability

The barrier identified in this survey by over half of the respondents was funding to support monitoring and/or reporting of quality metrics. This survey reports that 32 rural EMS providers reported a lack of resources as a barrier to performing quality improving activities.

*It was noted that all the rural EMS providers use some form of quality metrics, however, fifty percent identified the following barriers: resources, funding and enough staff to adequately collect, evaluate and report quality metrics to improve care in their services.*

*When measures were used and not shared with the team, respondents were asked why they did not share the data. Seventy five percent of the rural EMS providers reported that the reason quality metrics are not shared with their team is lack of funding.*

- **Recommendation 1.1:** Establishment of education programs targeting rural EMS providers on the grant application process.
- **Recommendation 1.2:** Grant process revised to place a priority on rural QI initiatives.
- **Recommendation 1.3:** Establish a quality improvement consulting program for rural EMS providers provided by the Bureau of Emergency Medical Oversight.
- **Recommendation 1.4:** Establish a regularly updated list of resources for available grant writing consultants and funding sources for rural EMS providers.
- **Recommendation 1.5:** Establish a grant funding user group and host quarterly video call to share best practices and resources.

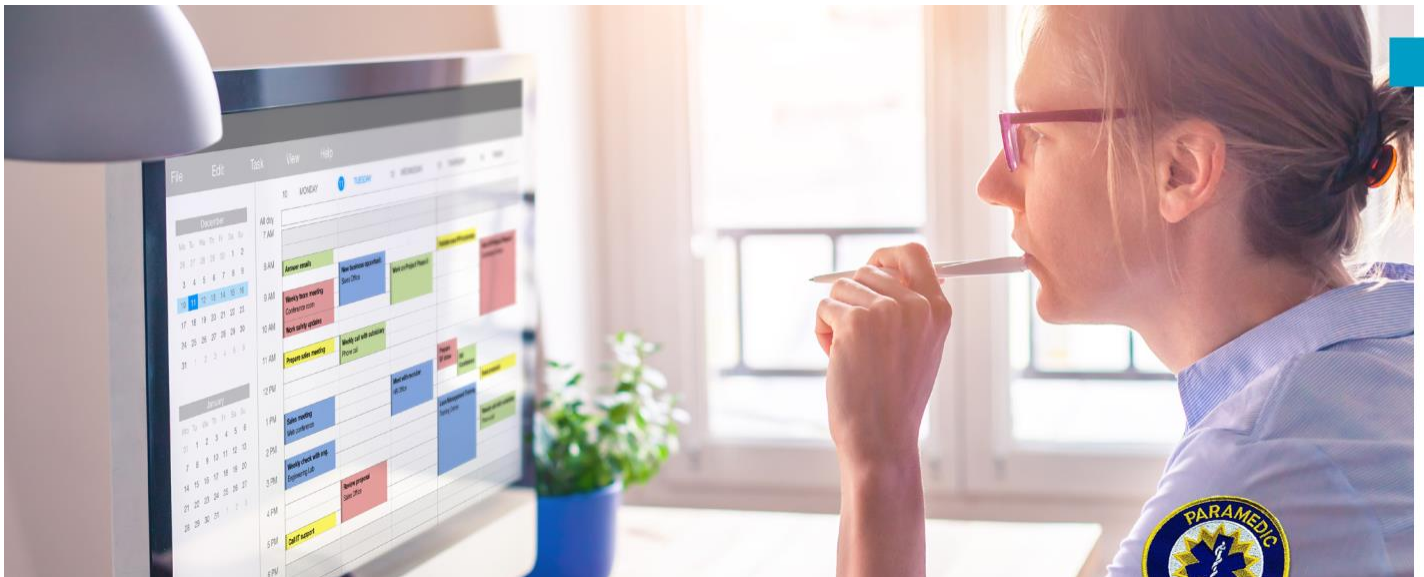
## Recommendation 2 | Data Relevancy

The Rural EMS providers were also asked about their use of the EMS Compass measures. The EMS Compass initiative engaged a wide range of EMS stakeholders to develop performance measures that are relevant to EMS providers, regulators, and patients. The measures are based on the latest version of the National EMS Information System (NEMSIS). The results of the survey indicated that the rural providers' top three of the 18 Compass measures being monitored are stroke assessment (85 percent), initial pain documented in trauma (61 percent) and reassessment of pain in trauma (59 percent).

Only 24 percent of the providers use a dashboard-style format to report metrics; primarily for regular staff meetings. Survey respondents (59%) reported a desire to include dashboard-style reports and would like to have access to more real-time reports. These results indicate there was no consistent understanding of the types of dashboards available and their applicability.

The survey reported that only 12 percent of Florida's rural EMS providers actively participate in the Department of Health's quality improvement/biosurveillance platform, Biospatial. This platform currently includes all 14 EMS Compass measures and 11 additional measures that have been approved by Florida's EMS Advisory Council's (EMSAC) Data Committee.

- **Recommendation 2.1:** Actively engage rural EMS providers in the development of the F.A.I.R. measures.
- **Recommendation 2.2:** Create efficient time saving predefined automated queries in the Biospatial software data cube.
- **Recommendation 2.3:** Create a process measures dashboard for rural EMS providers to utilize in a format that can be customized to the individual EMS providers.
- **Recommendation 2.4:** Develop and implement an online and on-demand educational program for use of the Biospatial data cube platform.
- **Recommendation 2.5:** Develop and implement a quality improvement online and on-demand education program geared toward the rural EMS providers.



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### Recommendation 3 | Data Impact on Patient Outcomes

Currently, 10 percent of the rural EMS providers participate in the CARES. CARES is a collaborative effort of the CDC and Emory University, Woodruff Health Sciences. The goal of CARES is to improve survival from sudden cardiac death. The registry is designed to help local EMS administrators and medical directors identify who is affected, when and where cardiac arrest events occur, which elements of the system are functioning properly, and which elements are not, and how changes can be made to improve cardiac arrest outcomes. CARES uses an Internet database system that reduces time involved in registering OHCA events, tracking patient outcomes with hospitals prospectively, and response time intervals associated with first responder and EMS agencies.

When asked what could improve their quality improvement efforts at the local, state or national level the following responses were collected by the survey:

- **45% The ability to share data and obtain patient outcomes from hospitals.**
  - **34% The need for resources and/or staff.**
  - **21% Improved patient care reporting systems, training and funding.**
- 
- **Recommendation 3.1:** Increase the rural EMS providers participation in the CARES project.
  - **Recommendation 3.2:** Establish methods to share clinical and demographic data between health care stakeholders and the rural EMS providers to evaluate care delivery outcomes.
  - **Recommendation 3.3:** Engage all relevant stakeholders such as hospitals, local health departments and consumers to enhance collaborative quality improvement programs.
  - **Recommendation 3.4:** Create a quality improvement guidebook for rural EMS providers to assist in the establishment and maintenance of an effective quality improvement program and culture.



Manatee County Florida Community Paramedicine



## References

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## Data Sources

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