

Introduction

The goal for our project was to find the reasons for the shortage of EMS workers. There were two groups within our team: one group evaluated the data, and the other group conducted a survey. We then evaluated and discussed our findings and identified trends.

Background

Focus Group:

- Held in Plainfield, IN on March 12, 2020
- People from all over Indiana came
- Worked in different fields of EMS:
 - Paramedics
 - EMTs
 - Education
 - Government
- Asked questions based off of:
 - Data
 - Analysis
 - Prior Knowledge
- The meeting helped us understand the trends in the data and allowed us to find accurate points.

Challenges

Data Group Challenges

- Getting access to NEMSIS data
- Understanding the data
- Making the data accessible to more people

Survey Group

- Assembling a focus group
- Hearing from people all over the State
- Meeting during COVID-19 pandemic and not at Purdue

Findings

The shortage of paramedics and EMTs is due to:

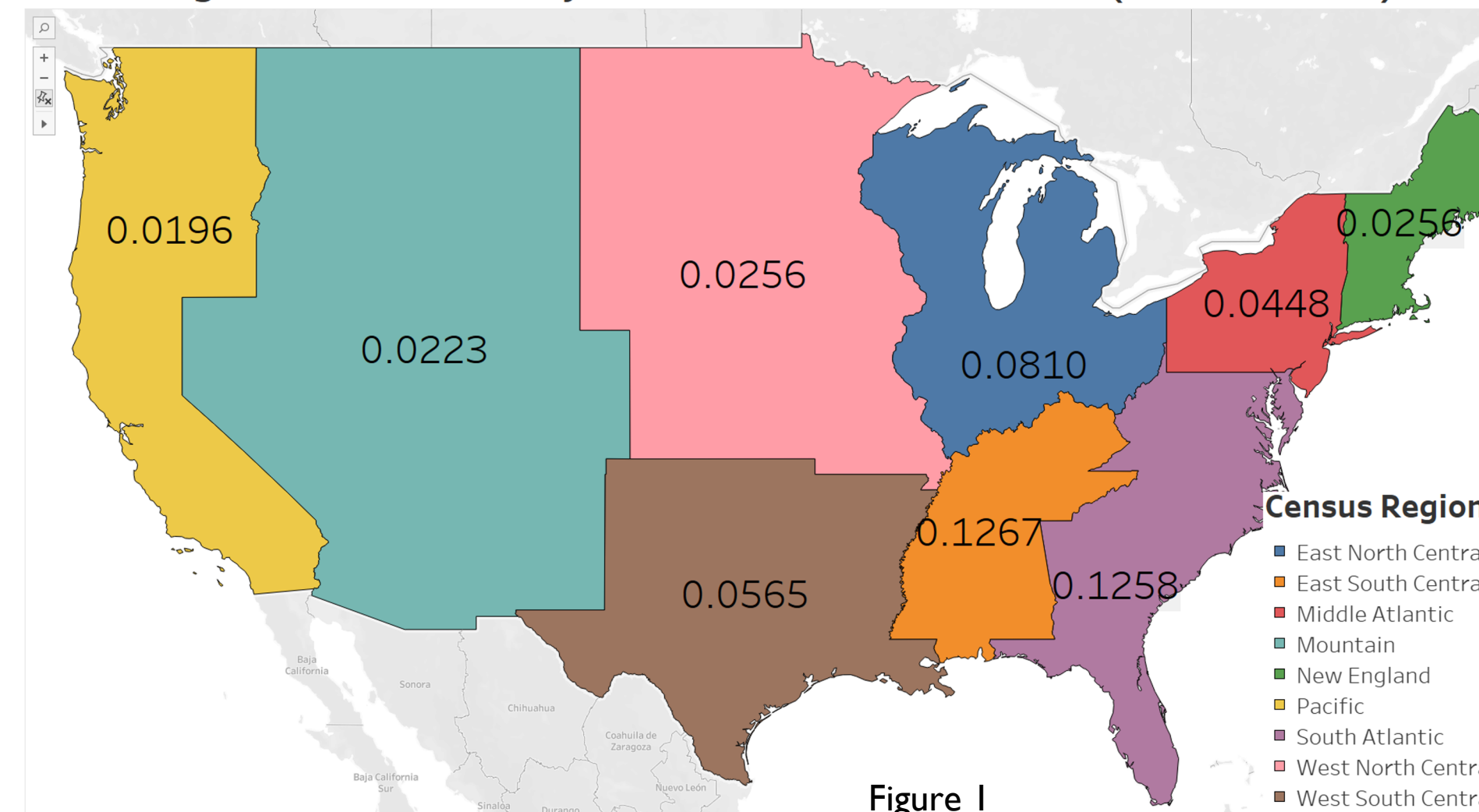
- Low induction and retention rate (Robbins)
- Low wages and benefits ([indeed.com](https://www.indeed.com))
- Low budget and lack of funding (Avery et al)

Figures 1-4 show us that there are delays due to budget problems and the shortage.

Methodology

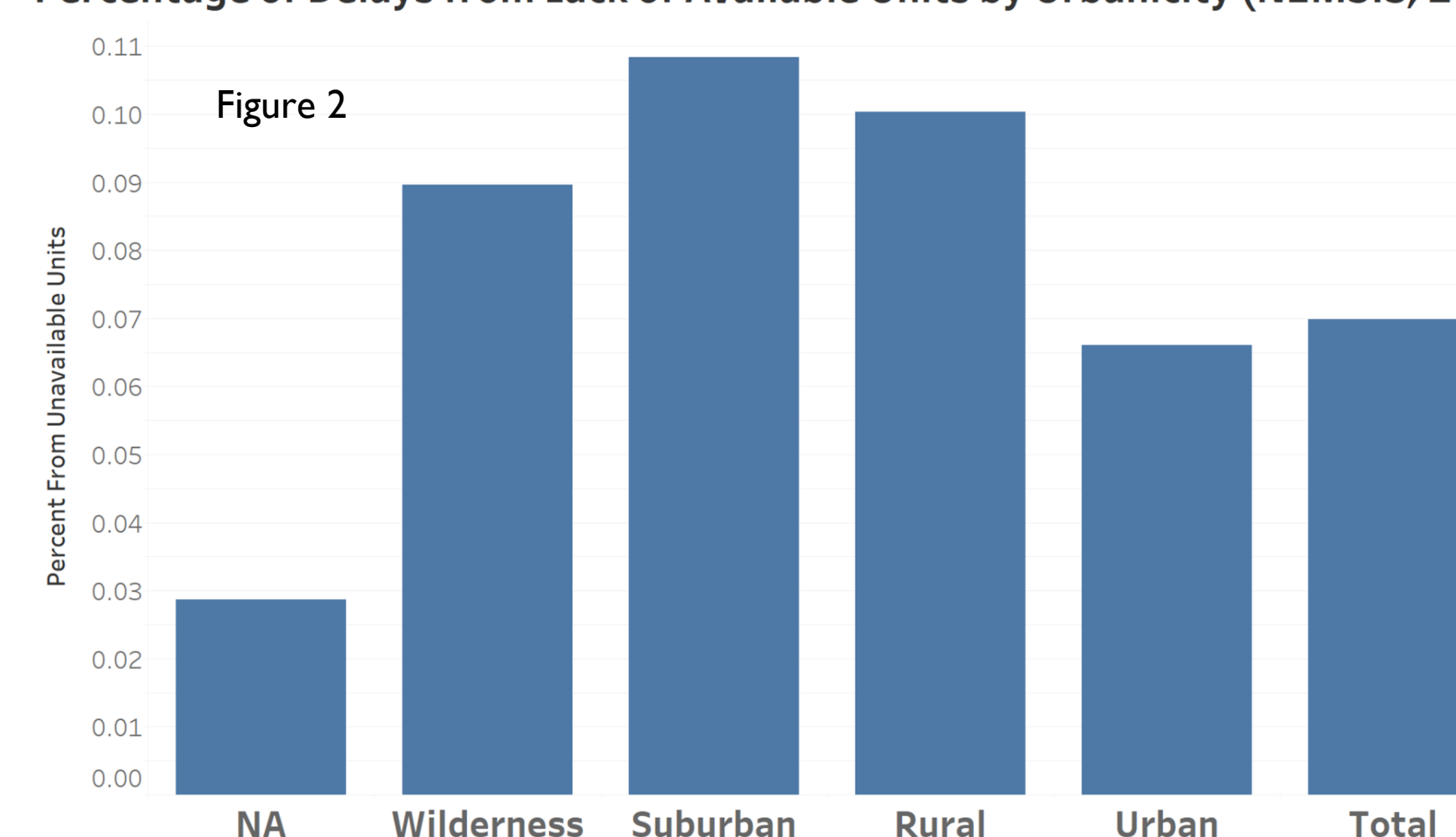
The data group used different kinds of technology to sort out the data provided to us (NEMSIS) by our Corporate Partner mentors, and the survey group went to a focus group in Plainfield, Indiana to talk to individuals who had first hand information regarding the shortage. This included paramedics, educators, fire chiefs and staff from the state of Indiana Health and Human Services.

Percentage of Calls with Delay from Lack of Available Units (NEMSIS, 2018)



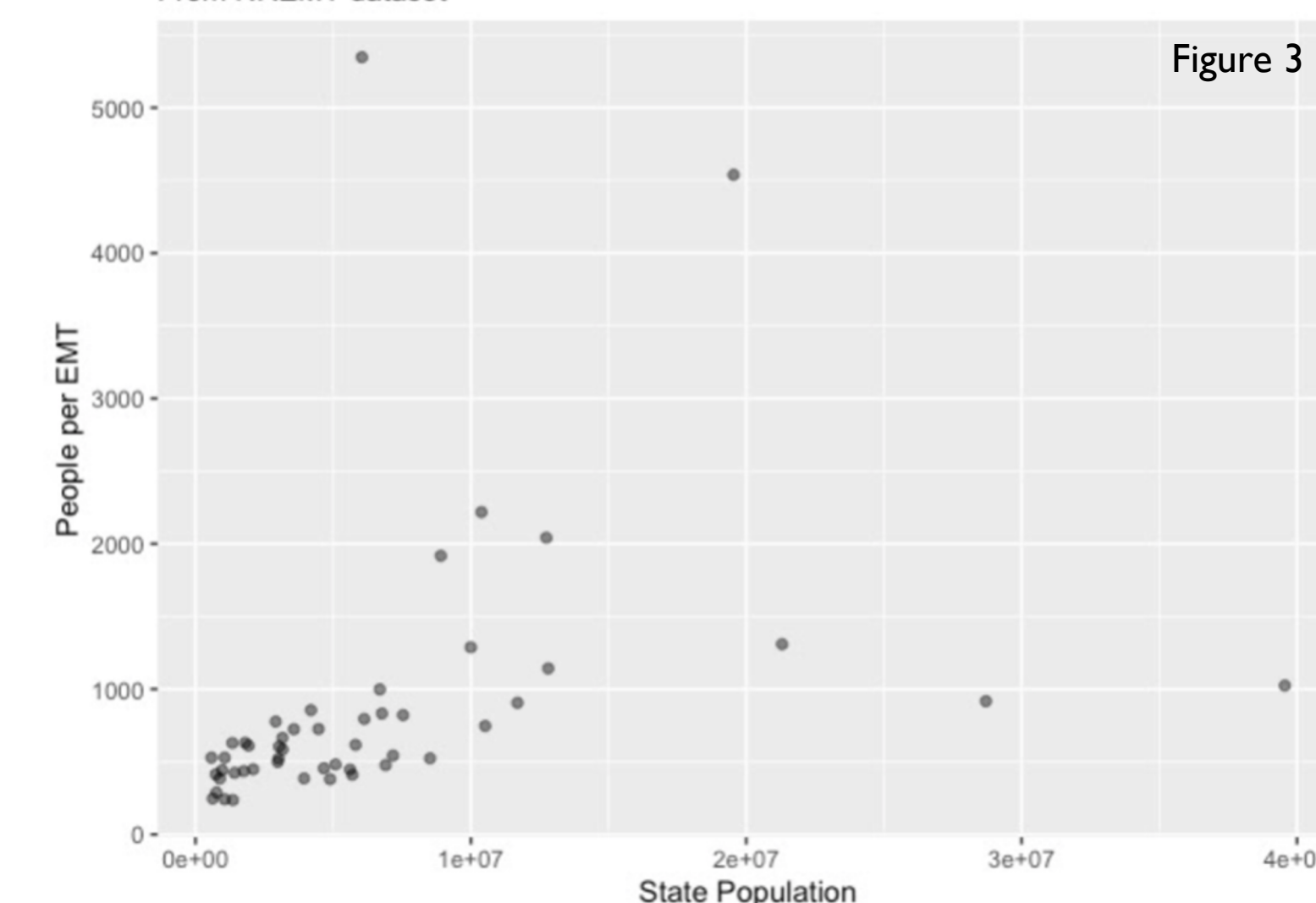
- Sine delays are caused by (data shown in Figures 1 and 2):
- Lack of equipment
 - Lack of personnel
 - The eastern midwest is the most effected by this

Percentage of Delays from Lack of Available Units by Urbanicity (NEMSIS, 2018)



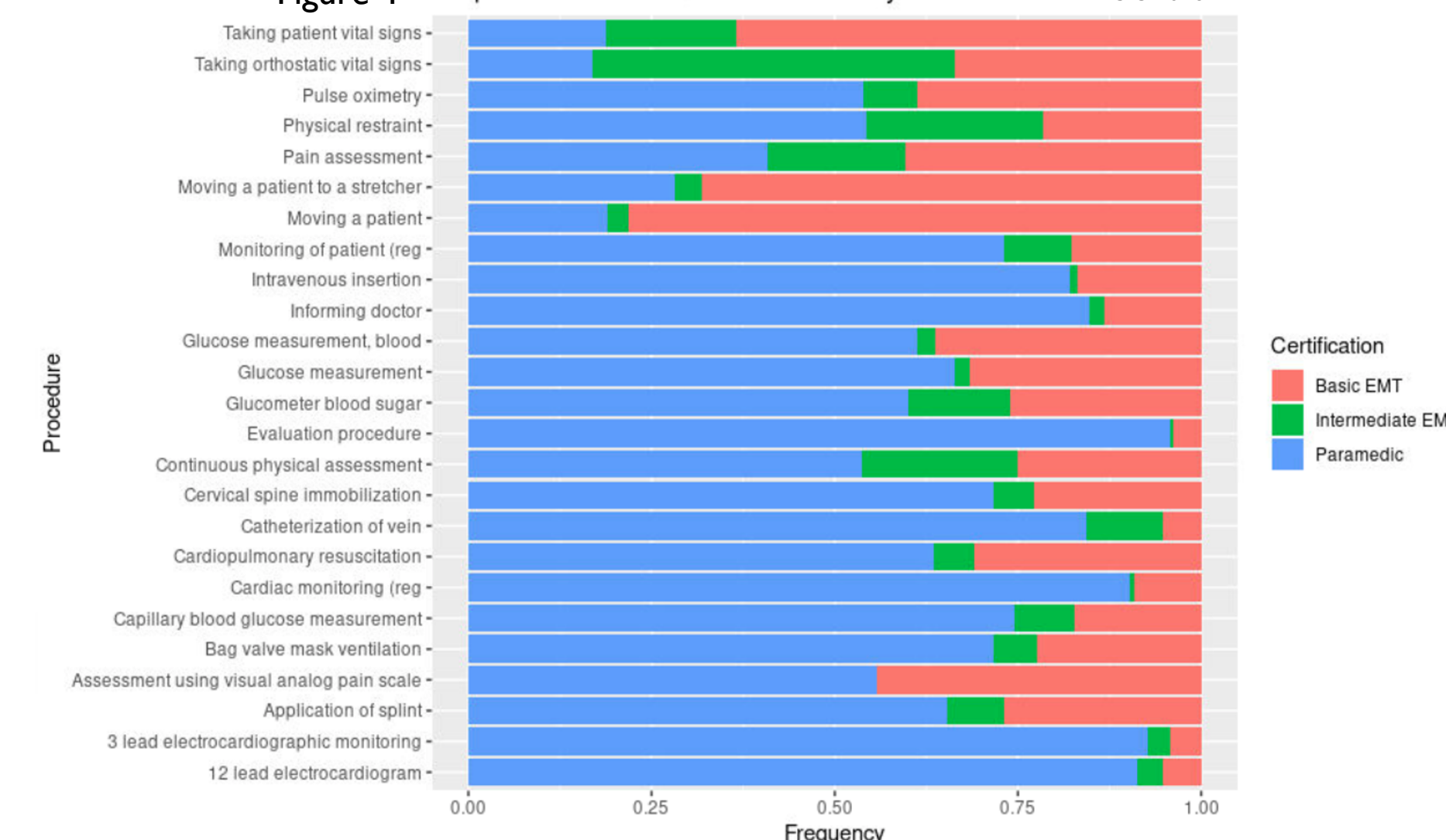
- Causes of delays-continued:
- Suburban and Rural areas have higher rates of delays from a lack of equipment or personnel (Figure 2)
 - Can be solved with more equipment and personnel

State Population vs People per EMT From NREMT dataset



- Funding
- Coastal states pay more for first responders (Figure 3)
 - Lack of personnel in rural states
 - Budgets are lower in rural states

Figure 4 Proportion of Procedures Performed by Certification NEMSIS 2018



- Shortage
- Paramedics are doing procedures that EMTs could be doing (Figure 4)
 - EMTs only require 120-150 hours of training, Paramedics require 1200-1800 hours (EMT vs. Paramedic, MTS)
 - Hiring additional EMTs, could help relieve the shortage faster.

Future Goals

- Send a computer-based survey to EMS workers in Indiana
- Continue to monitor for changes in data over time
- Evaluate for long term and sustainable solutions

Conclusion

This project analyzed the shortage of EMTs and paramedics in Indiana. There were 3 primary drivers of the EMT shortfall:

- Low budget and limited funding
- Low retention rates
- Lack of personnel and equipment

One solution would be to realign job descriptions with training to improve staff utilization and retention due to job satisfaction.

References

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