



# Iowa Emergency Medical Services Annual System Status Report

February 2025

## Table of Contents

Acknowledgments .....	2
List of Figures.....	3
Executive Summary .....	4
List of Acronyms.....	5
Overview .....	6
EMS Clinicians .....	7
EMS Testing.....	15
EMS Service Programs .....	18
Summary.....	21
Data Sources .....	22

# Acknowledgments

## Suggested Citation:

Iowa Department of Health and Human Services, Bureau of Emergency Medical and Trauma Services. *2024 Emergency Medical Services Annual System Status Report*. Des Moines: Iowa Dept. of Health and Human Services. Web.  
<https://hhs.iowa.gov/emergency-medical-services-trauma/emergency-medical-services>.  
Access date – day month, year.

Gov Kim Reynolds  
Lt Gov Chris Cournoyer  
Iowa HHS Director Kelly K. Garcia

## Report Contact Information:

Gary Merrill, Bureau of Emergency Medical and Trauma Services  
[gary.merrill@hhs.iowa.gov](mailto:gary.merrill@hhs.iowa.gov)  
<https://hhs.iowa.gov/public-health/emergency-medical-services-trauma>

Brad Vande Lune, Bureau of Emergency Medical and Trauma Services  
[brad.vandelune@hhs.iowa.gov](mailto:brad.vandelune@hhs.iowa.gov)

Margot McComas, Bureau of Emergency Medical and Trauma Services  
[margot.mccomas@hhs.iowa.gov](mailto:margot.mccomas@hhs.iowa.gov)

Ken Sharp, Public Health Division  
[kenneth.sharp@hhs.iowa.gov](mailto:kenneth.sharp@hhs.iowa.gov)

Dr. Robert Kruse, MD, Public Health Division  
[robert.kruse@hhs.iowa.gov](mailto:robert.kruse@hhs.iowa.gov)

## Acknowledgments:

The Bureau of Emergency Medical and Trauma Services would like to acknowledge the Emergency Medical Services Advisory Council (EMSAC) for ongoing support for emergency medical system development.

## List of Figures

Figure 1: Active EMS Certifications by Year, 2016 - 2025.....	8
Figure 2: Active EMR Certifications by Year .....	9
Figure 3: Active EMT Certifications by Year .....	10
Figure 4: Active AEMT Certifications by Year .....	11
Figure 5: Active Paramedic Certifications by Year .....	12
Figure 6: EMS Clinicians by Age Range, 2023 - 2025 .....	13
Figure 7: Distribution of Rostered Positions by Responder Level .....	14
Figure 8: NREMT First Attempt Pass Rates, Iowa and National, 2024 .....	15
Figure 9: Iowa EMR Testing Results, 2020 - 2024 .....	16
Figure 10: Iowa EMT Testing Results, 2020 - 2024 .....	16
Figure 11: Iowa AEMT Testing Results, 2020 - 2024 .....	17
Figure 12: Iowa Paramedic Testing Results, 2020 - 2024 .....	17
Figure 13: Iowa EMS Service Locations by Full Authorization Level.....	18
Figure 14: Iowa EMS Service Locations by Type of Service .....	19
Figure 15: Incident Reports Submitted by Year .....	20

## Executive Summary

The 2024 Iowa EMS System Status Report was compiled by the Bureau of Emergency Medical and Trauma Services (BEMTS) using data obtained by BEMTS to identify trends, strengths, and opportunities for improvement that EMS services, clinicians and systems face.

This report utilizes data obtained through the ImageTrend EMS Data Registry, the AMANDA licensure registry, and the National Registry of Emergency Medical Technicians.

The following is a brief overview of the data included in the report:

- There are 10,860 total active EMS clinicians, an increase of nearly 1.5% from the previous year, and the first increase since 2018
  - 729 EMRs, a decrease of 2.4%
  - 6,162 EMTs, an increase of 0.5%
  - 401 AEMTs, a decrease of 0.7%
  - 3,568 paramedics, an increase of 4.1%
- First-attempt success rate for NREMT certification exams in Iowa lag the national average overall
  - EMR: Iowa 71%, National 64%
  - EMT: Iowa 57%, National 69%
  - AEMT: Iowa 58%, National 61%
  - Paramedic: Iowa 62%, National 73%
- Iowa ranked 45<sup>th</sup> of fifty states and District of Columbia in first attempt passing rates at the EMT and paramedic levels
- Iowa has 724 authorized services covering 901 service locations
- 459,599 total EMS incidents were reported to the state registry for 2024, an average of 635 per service

## List of Acronyms

AED .....	Automated External Defibrillator
AEMT .....	Advanced Emergency Medical Technician
BEMTS .....	Bureau of Emergency Medical and Trauma Services
CPR .....	Cardiopulmonary Resuscitation
EMR .....	Emergency Medical Responder
EMS .....	Emergency Medical Services
EMSAC .....	Emergency Medical Services Advisory Council
EMT .....	Emergency Medical Technician
Iowa HHS .....	Iowa Department of Health and Human Services
NREMT .....	National Registry of Emergency Medical Technicians
PA .....	Physician Assistant
RN .....	Registered Nurse

## Overview

Emergency medical services (EMS) in Iowa continues to face many challenges. Declining volunteerism across the nation has hampered services' ability to deliver critical emergency services to many communities. Insufficient sources of funding and increasing expenses have further challenged EMS agencies who often struggle to maintain the equipment and supplies that are vital to performing services.

Despite these ongoing challenges, Iowa's EMS agencies have demonstrated fortitude and drive in 2024. While a small number of services ceased operations last year, there were new services that began operations, resulting in essentially no change in the number of service locations serving Iowans. The level of service being provided by agencies across the state also remained relatively unchanged. Calls for service increased from 2018 through 2022, but have remained steady over the last three years, with 459,599 incidents reported to the state registry in 2024.

During the last year, bureau staff have assisted some counties in building stronger regional systems of EMS. In some cases, multiple independent agencies chose to combine under one county-owned entity. Other systems developed partnership agreements and affiliations that allowed individual services' independent ownership while providing an opportunity to collectively develop protocols, continuous quality improvement programs, and training programs. Some of this work began as counties established EMS advisory councils after the citizens voted to declare EMS an essential service and enact a property tax, income surtax, or a combination of the two taxes to support the local EMS system. As of January 1, 2025, twenty counties in Iowa have voted in favor of a tax to support EMS under Iowa Code Chapter 422D.

The number of certified EMS clinicians in Iowa increased in 2024 for the first time since 2018. The number of certified EMTs and paramedics grew in 2024, while the number of EMRs dropped slightly, and the number of AEMTs remained level. There was a noticeable increase in the percentage of clinicians in Iowa in the youngest age grouping, 17 – 30-year-olds.

EMS candidate testing data from the National Registry of Emergency Medical Technicians shows that Iowa continues to fall below the national average in testing success rates. In 2024, Iowa ranked 45<sup>th</sup> out of the fifty states and District of Columbia in first attempt passing rates at both the EMT and paramedic levels.

The data collected for 2024 shows some very positive changes occurring in EMS in Iowa, but also reveals some challenges that need to be addressed. The Bureau of Emergency Medical and Trauma Services staff are available to assist agencies in efforts to overcome challenges.

# EMS Clinicians

## Certification Levels

The Iowa Department of Health and Human Services (Iowa HHS) recognizes four levels of EMS clinician certification which correlate to the nationally recognized levels. To obtain certification, students must attend an EMS training program and successfully complete the National Registry of Emergency Medical Technicians testing process. Currently there are 21 training programs in Iowa offering courses at the first three levels of certification, with 13 also offering paramedic courses.

### Emergency Medical Responder (EMR)

Emergency Medical Responders are often the first component of a comprehensive EMS response. EMRs perform basic interventions at the scene of an emergency with minimal equipment to manage life threats, and medical and psychological needs of the patient until additional personnel arrive. Skills within the EMRs scope of practice include basic airway management and oxygen administration, bleeding control, cardiopulmonary resuscitation (CPR) and use of an automated external defibrillator (AED), and assisting with childbirth outside of a clinical setting. EMR certification programs typically involve approximately 45 hours of lecture and lab coursework.

### Emergency Medical Technician (EMT)

The primary focus of the Emergency Medical Technician is to provide basic emergency medical care and transportation for sick and injured patients. EMTs receive greater training in patient assessment and anatomy and physiology, and have a greater skill set and expanded scope of practice. In addition to the skills performed by the EMR, the EMT can perform more invasive airway management, stabilization of injuries, and may administer a limited set of emergency medications. EMT certification programs typically require approximately 130 hours of lecture and laboratory coursework as well as 30 hours of clinical experience in emergency departments and ambulance services.

### Advanced Emergency Medical Technician (AEMT)

The Advanced Emergency Medical Technician builds upon the EMT foundational education. AEMTs are trained in focused advanced skills to provide an advanced level of care for specific emergency situations including the initiation of intravenous (IV) lines and administration of an expanded set of emergency medications. AEMT certification programs typically involve 12 weeks of classroom training with 200 hours of clinical rotations in hospitals and precepted ambulance field time.

### Paramedic

Paramedics are trained to perform basic and advanced patient assessments and skills, interpret diagnostic findings to implement treatment, provide complex patient care, and facilitate referrals to specialized care when required by the patient's condition.

Paramedics receive extensive training in anatomy and physiology, pathophysiology, and



pharmacology. Paramedics use a wide range of specialty diagnostic equipment and critical thinking skills to manage complex conditions. The paramedic scope of practice allows many advanced skills including endotracheal intubation and cricothyrotomy for airway management, management of chest tubes, interpretation of cardiac monitoring, cardioversion and transcutaneous pacing of patients with life-threatening heart rhythms, and the administration of an extensive set of medications as approved by the service's physician medical director. Paramedic education programs generally consist of two semesters of classroom training and approximately 600 hours of clinical rotations in hospitals and supervised paramedic internship with an ambulance service.

### All Certified Clinicians

The number of actively certified EMS clinicians on January 1 of each year showed a downward trend from 2019 to 2024. However, as of January 1, 2025, Iowa had 10,860 certified EMS clinicians compared to 10,710 one year ago. This is an increase of just under 1.5% over the last year and is the first increase in the number of EMS clinicians in Iowa since 2019.

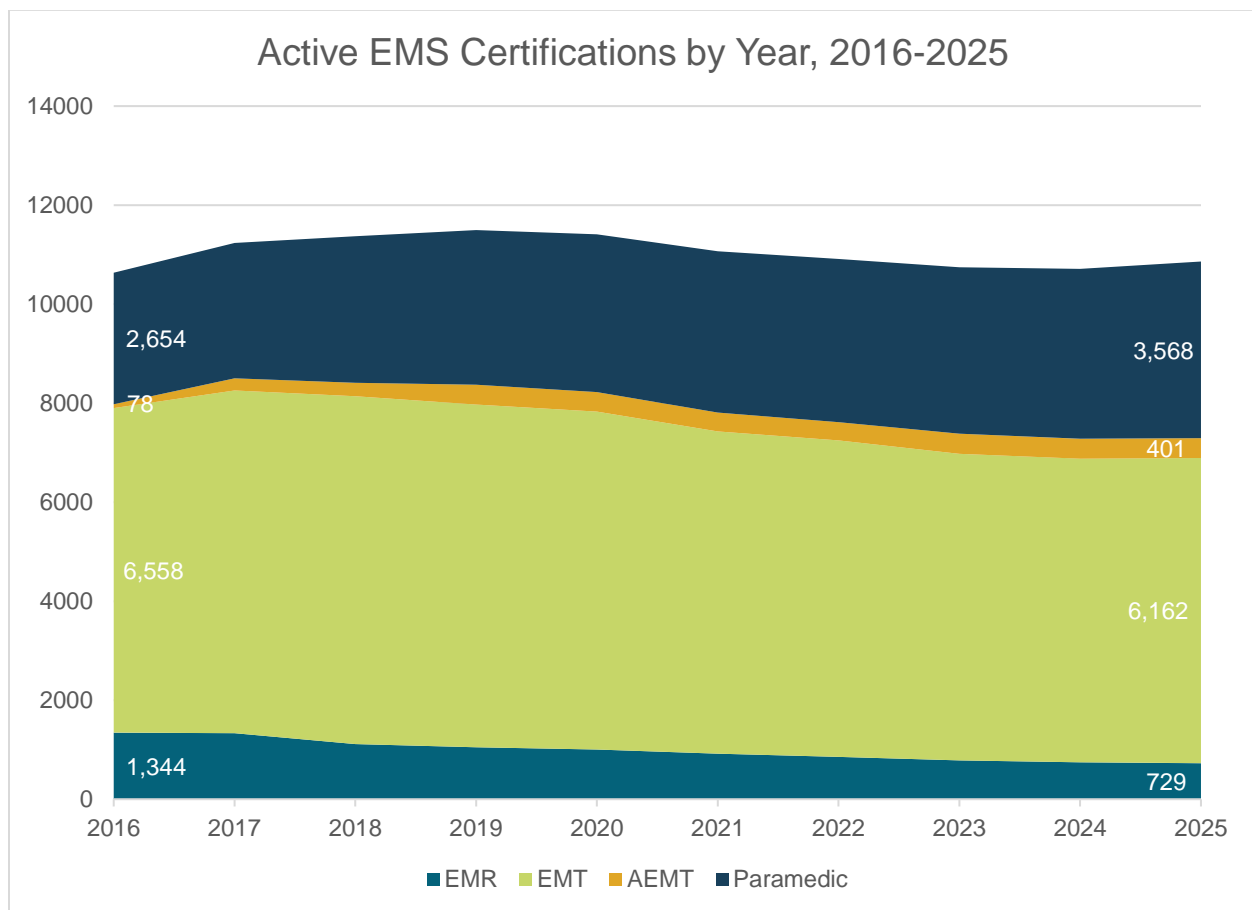


Figure 1: Active EMS Certifications by Year, 2016 - 2025

## Emergency Medical Responder (EMR)

While the total number of EMS clinicians in Iowa increased over the last year, the number of emergency medical responders (EMRs) continued to decrease. On January 1, 2025, the number of EMRs had fallen to 729. This reflects a loss of 2.4% of clinicians at this certification level but is the smallest percentage decrease in EMRs since 2017.

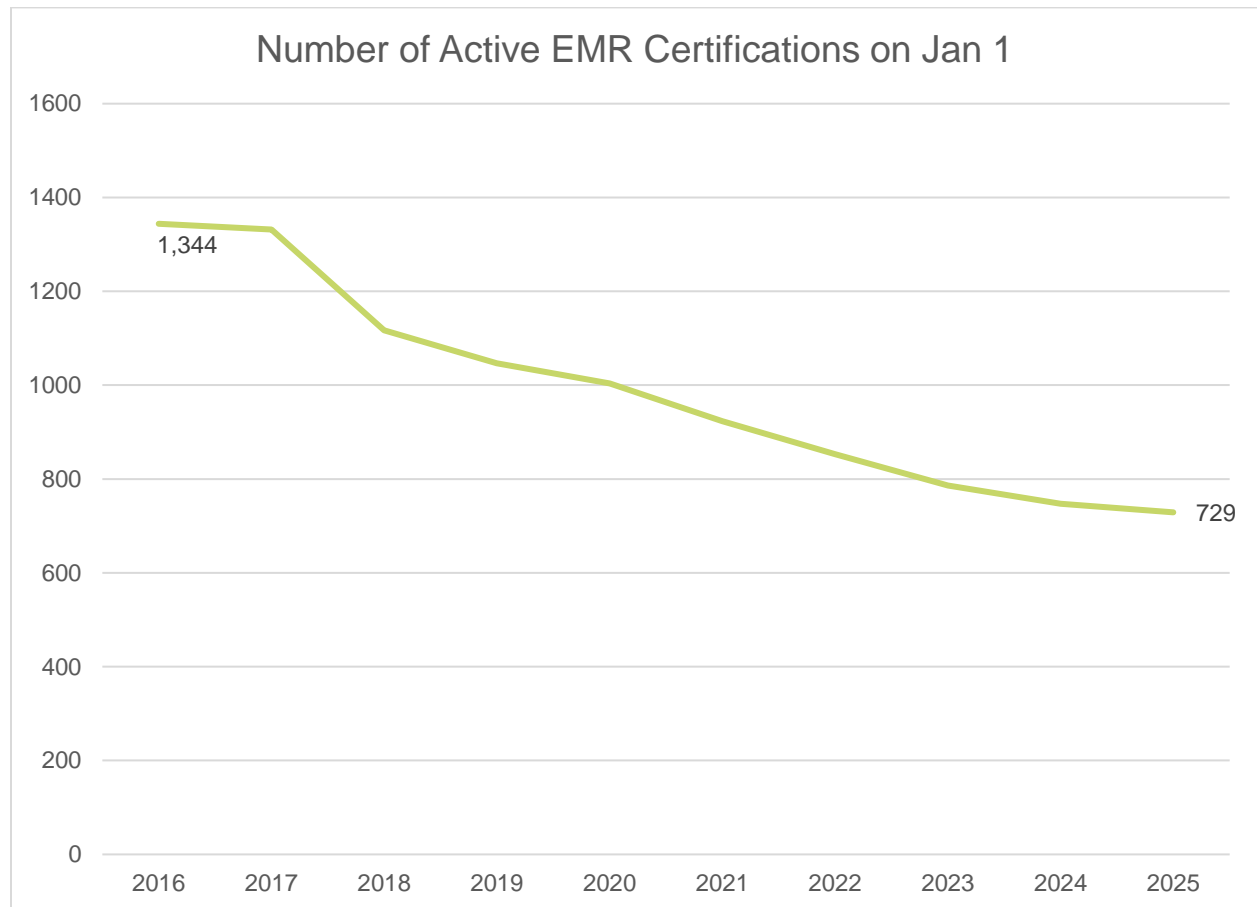


Figure 2: Active EMR Certifications by Year

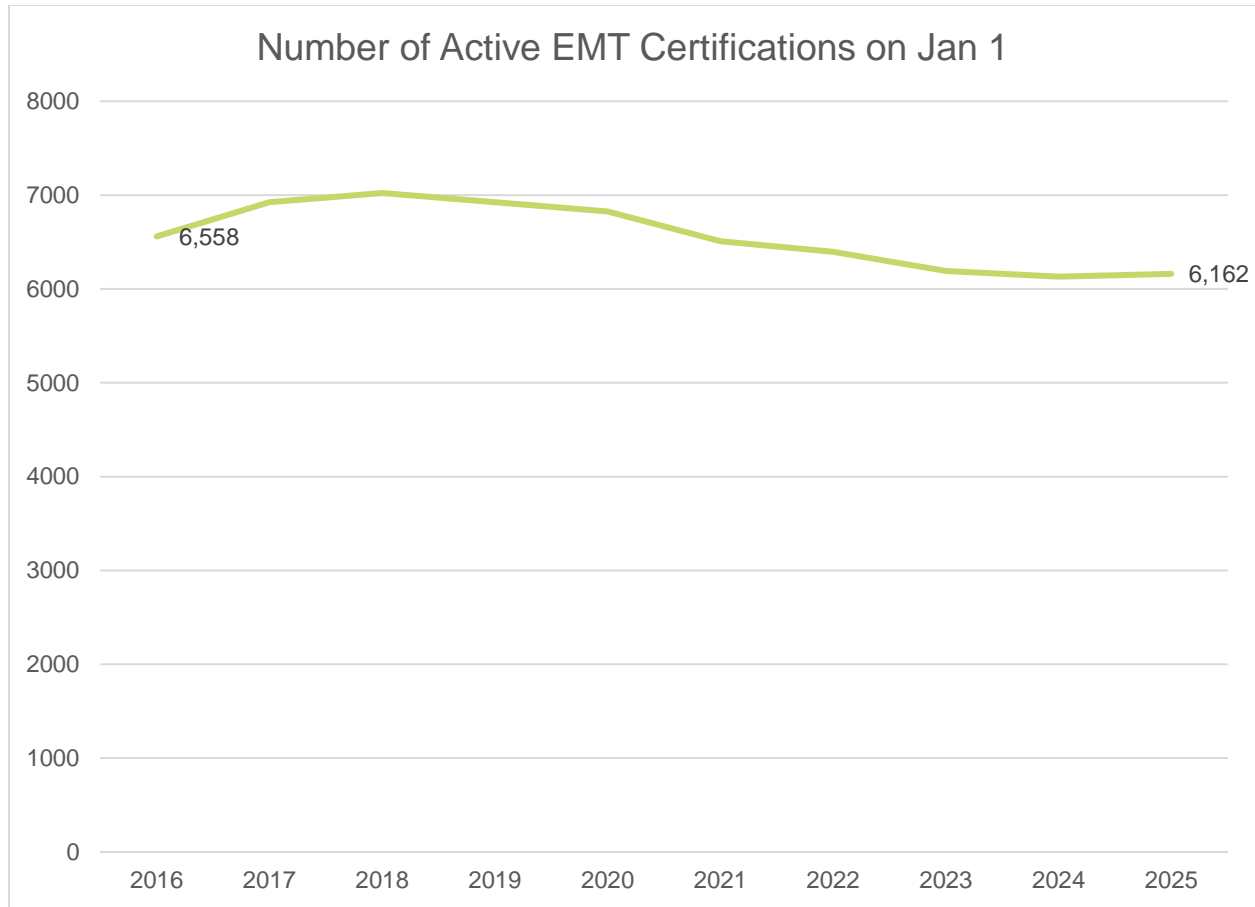
On January 1, 2024, there were 747 certified EMRs in Iowa. Of those, 652 (87%) maintained or renewed certification at the EMR level in 2024. Of the 95 clinicians who did not maintain or renew EMR certification:

- 79 (83%) are no longer Iowa-certified EMS clinicians
- 16 (17%) obtained an EMT certification

There were 75 new or reinstated EMR certifications issued in 2024 to clinicians not certified at any level in Iowa one year ago.

## Emergency Medical Technician (EMT)

During the last year, the number of emergency medical technicians increased by 0.5% to 6,162. This is the first increase at this certification level since 2017.



*Figure 3: Active EMT Certifications by Year*

On January 1, 2024, there were 6,131 certified EMTs in Iowa. Of those, 5,297 (86%) maintained or renewed certification at the EMT level in 2024. Of the 834 clinicians who did not maintain or renew EMT certification:

- 598 (72%) are no longer Iowa-certified EMS clinicians at any level
- 26 (3%) obtained an AEMT certification
- 208 (25%) obtained a paramedic certification
- Less than 1% transitioned to an EMR certification

There were 843 new or reinstated EMT certifications issued in 2024 to clinicians not certified at any level in Iowa one year ago.

## Advanced Emergency Medical Technician (AEMT)

The number of advanced emergency medical technicians (AEMTs) in Iowa saw a sharp increase in the mid-2010s as this was a new certification being offered at that time. Following the initial increase over the first three years, the number of AEMTs has remained fairly level. In 2024, the number decreased by only 3 to a total of 401 on January 1, 2025.

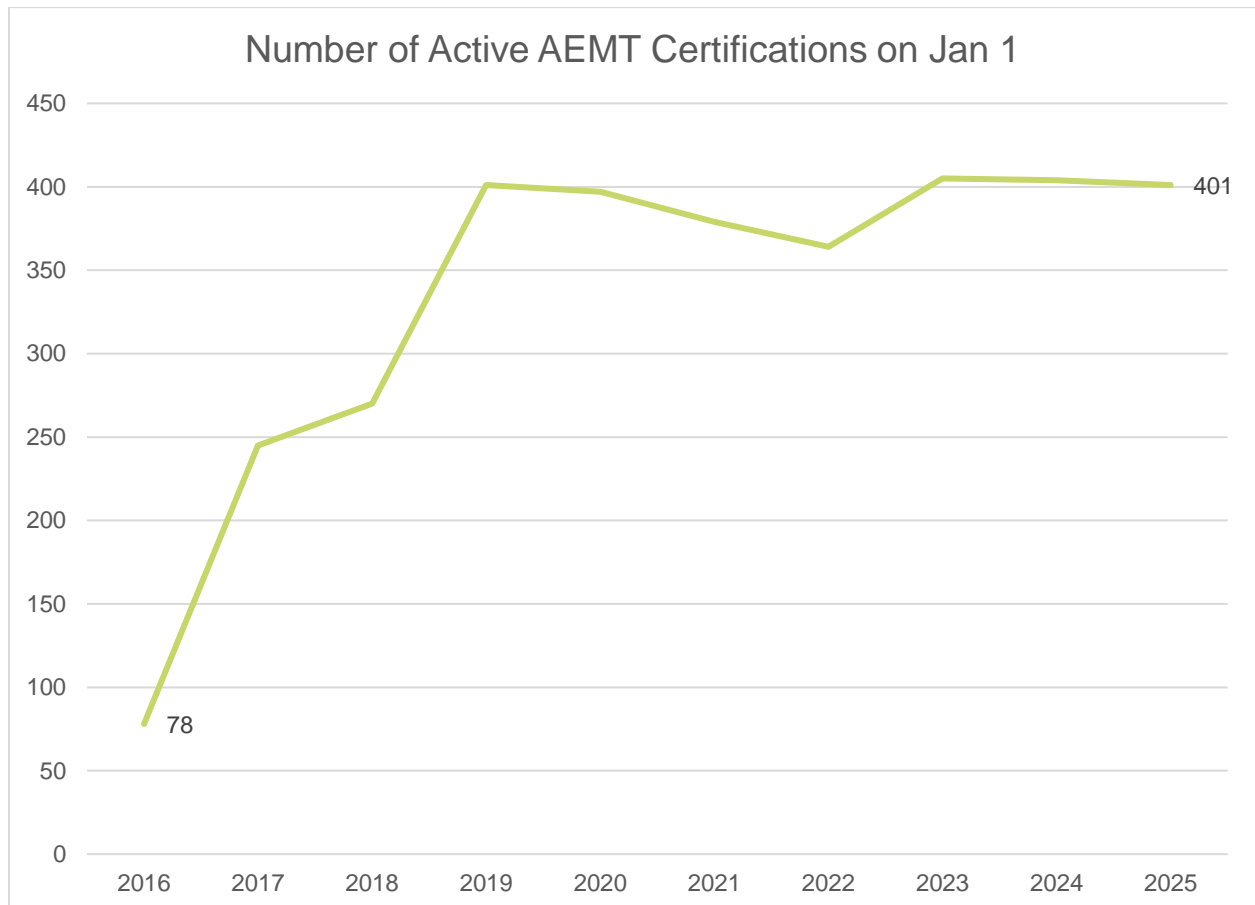


Figure 4: Active AEMT Certifications by Year

On January 1, 2024, there were 404 certified AEMTs in Iowa. Of those, 363 (90%) maintained or renewed certification at the AEMT level in 2024. Of the 41 clinicians who did not maintain or renew AEMT certification:

- 19 (46%) are no longer Iowa-certified EMS clinicians at any level
- 20 (49%) obtained a paramedic certification
- 2 (5%) transitioned to an EMT certification

There were 10 new or reinstated AEMT certifications issued in 2024 to clinicians not certified at any level in Iowa one year ago.

## Paramedic

In 2024, the number of paramedics continued to increase as it has for the last decade. Over the last year, the total increased by 140 clinicians, bringing the total to 3,568. This was a sharper increase than has typically been observed.

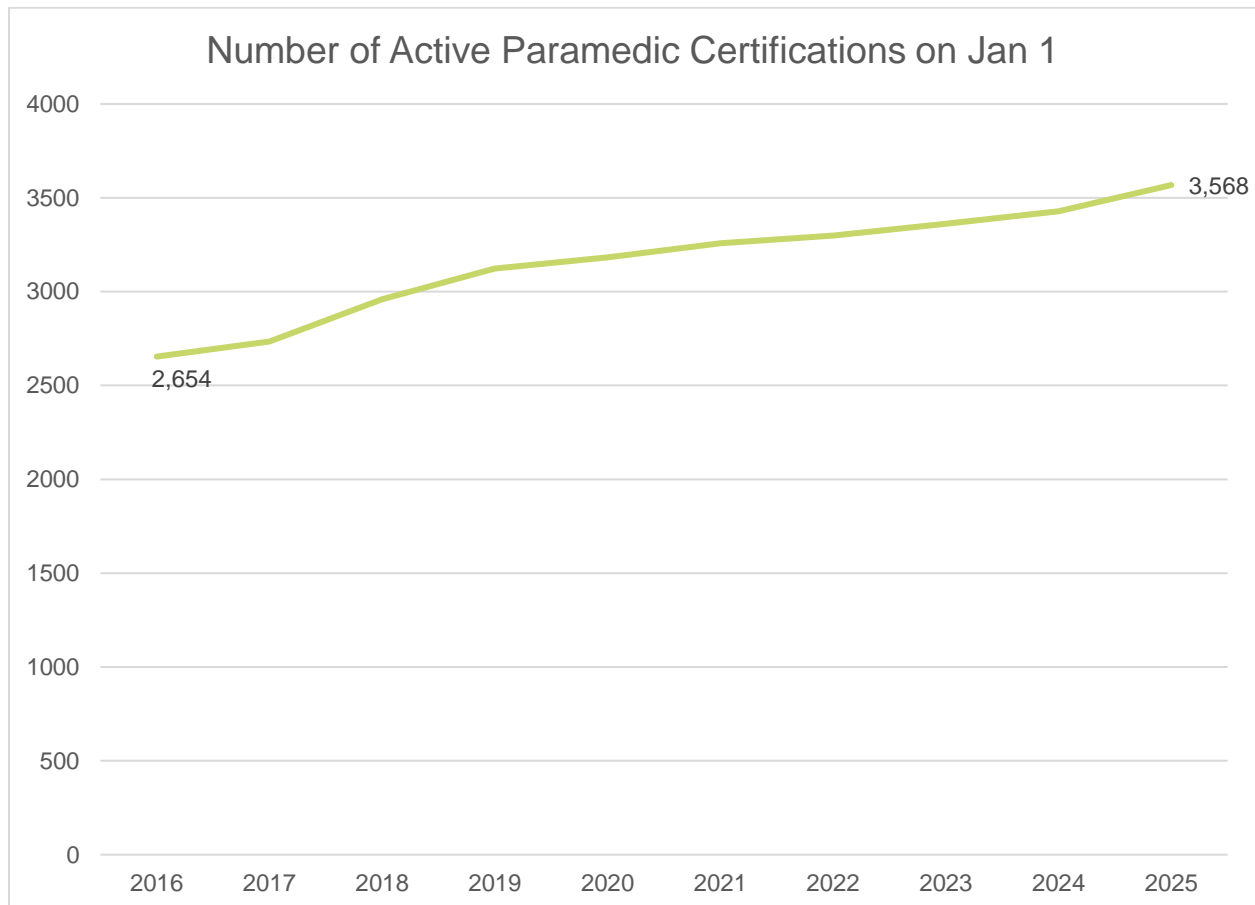


Figure 5: Active Paramedic Certifications by Year

On January 1, 2024, there were 3,428 certified paramedics in Iowa. Of those, 3,257 (95%) maintained or renewed certification at the paramedic level in 2024. Of the 171 clinicians who did not maintain or renew paramedic certification:

- 165 (96%) are no longer Iowa-certified EMS clinicians at any level
- 6 (4%) transitioned to a lower certification level

There were 83 new or reinstated paramedic certifications issued in 2024 to clinicians not certified at any level in Iowa one year ago.

## Age of EMS Clinicians

In 2024, there was a noticeable shift in the age of EMS clinicians in Iowa, with a higher percentage of clinicians in the range of 17-30 years of age than in previous years. This is a continuation of a trend first observed in 2023.

Age Range	Percent of Clinicians by Age Range, 2023 – 2025		
	2023	2024	2025
17-30	20.5%	21.3%	24.7%
31-40	25.0%	24.6%	24.7%
41-50	23.3%	23.4%	22.1%
51-60	18.8%	18.1%	17.0%
61-70	10.4%	10.4%	9.5%
71-80	1.9%	2.0%	1.8%
81-90	0.2%	0.2%	0.2%

Figure 6: EMS Clinicians by Age Range, 2023 - 2025

While this increase in the number of younger individuals entering EMS is a boon to the industry, EMS leaders must recognize that this influx of new, younger clinicians may also indicate a decrease in the overall experience of the crews. This necessitates a need for strong orientation and credentialing processes at the agency level. EMS agency leaders must also create a workplace environment that focuses on retention of this younger workforce.

## Rostered Positions

Every authorized EMS service in Iowa is required to maintain a roster of clinicians actively functioning as a service member. These rosters provide insight into the number of responders that are needed to staff individual services and to meet the total demand for EMS across Iowa. Approximately 1,500 responders are listed on more than one and as many as six service rosters. This equates to more than 10% of responders holding multiple EMS positions across the state. The total number of rostered positions in Iowa was 12,712 on January 1, 2025. This is a 4.7% decrease from one year ago. The graphic below shows the relative number of rostered positions for each type of responder. The largest group of rostered responders are EMTs, followed by drivers and paramedics, with the remainder consisting of registered nurses, EMRs, AEMTs, other non-designated responders, and physician assistants.

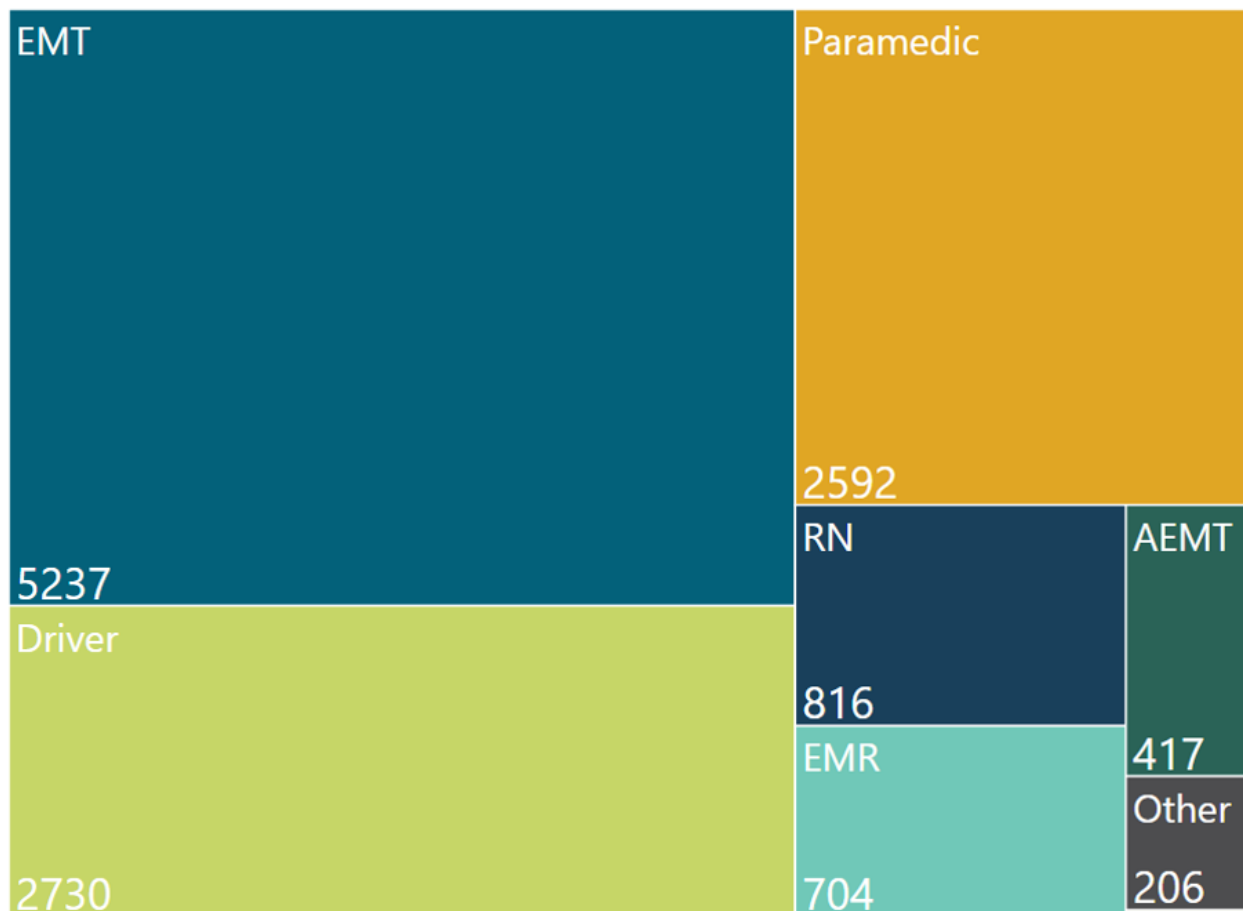


Figure 7: Distribution of Rostered Positions by Responder Level

# EMS Testing

## First Attempt Pass Rates

Iowa, along with most states, utilizes the National Registry of Emergency Medical Technicians (NREMT) testing process as the certification exam to obtain an Iowa EMS certification. This is a requirement of participation in the national EMS Personnel Licensure Interstate Compact. One component of this testing is a computer-based cognitive test. Candidates have six attempts to pass the NREMT exam within two years from completion of the course. The 2024 first attempt passing rates for Iowa EMS candidates are shown below compared to the national first attempt passing rates.

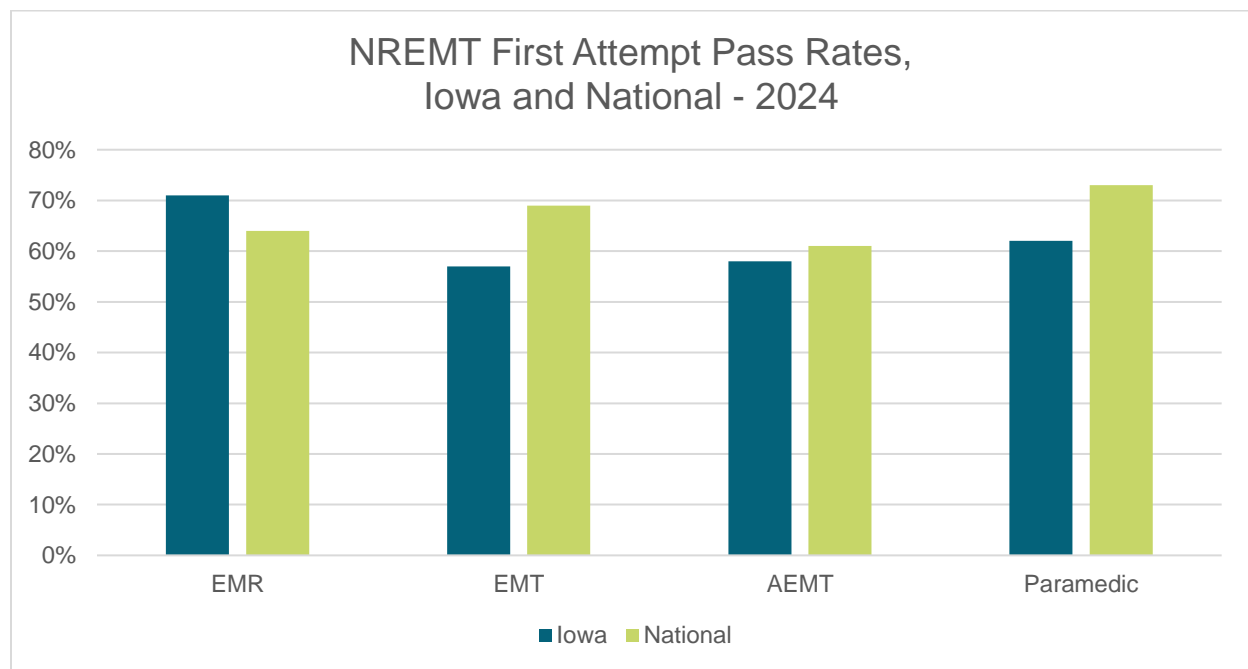


Figure 8: NREMT First Attempt Pass Rates, Iowa and National, 2024

Data from the NREMT shows that in 2024 Iowa ranked 45<sup>th</sup> out of the fifty states and District of Columbia on first attempt passing rates at both the EMT and paramedic levels.<sup>1</sup> The Iowa EMS Training Program Association and the Bureau of Emergency Medical and Trauma Services have established a workgroup to develop strategies to improve first-attempt pass rates. The workgroup will identify challenges faced by Iowa EMS students, instructors, and training programs and develop solutions to mitigate the challenges as well as identify successes in Iowa that can be replicated and expanded statewide. The workgroup will open lines of communication with states that experience a high success rate to develop a model for the future of Iowa EMS education.

<sup>1</sup> The National Registry Data Dashboard. (2025, January 2). In *The National Registry*. Retrieved 02 January 2025, from <https://www.nremt.org/maps>



## EMS Candidate Testing by Year

The following charts show the testing results over the last five years for Iowa EMS candidates across all attempts. Most candidates who completed programs in 2023 or 2024 but have not yet passed exams are still eligible to retest, having not expended all six attempts and not exceeded the two-year time limit.

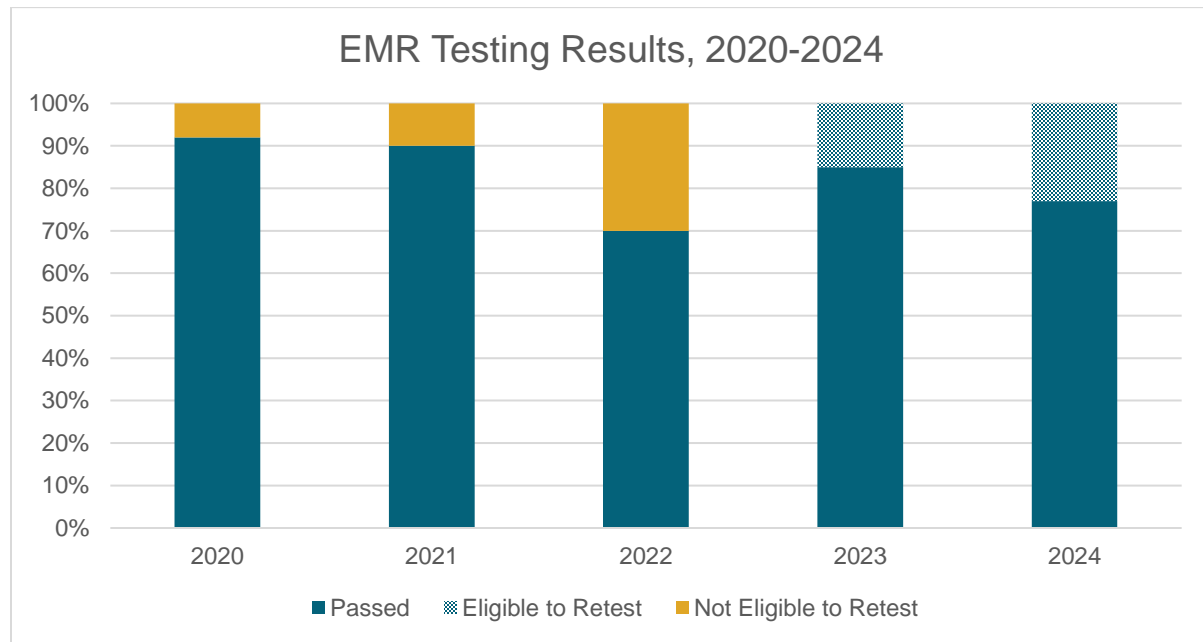


Figure 9: Iowa EMR Testing Results, 2020 - 2024

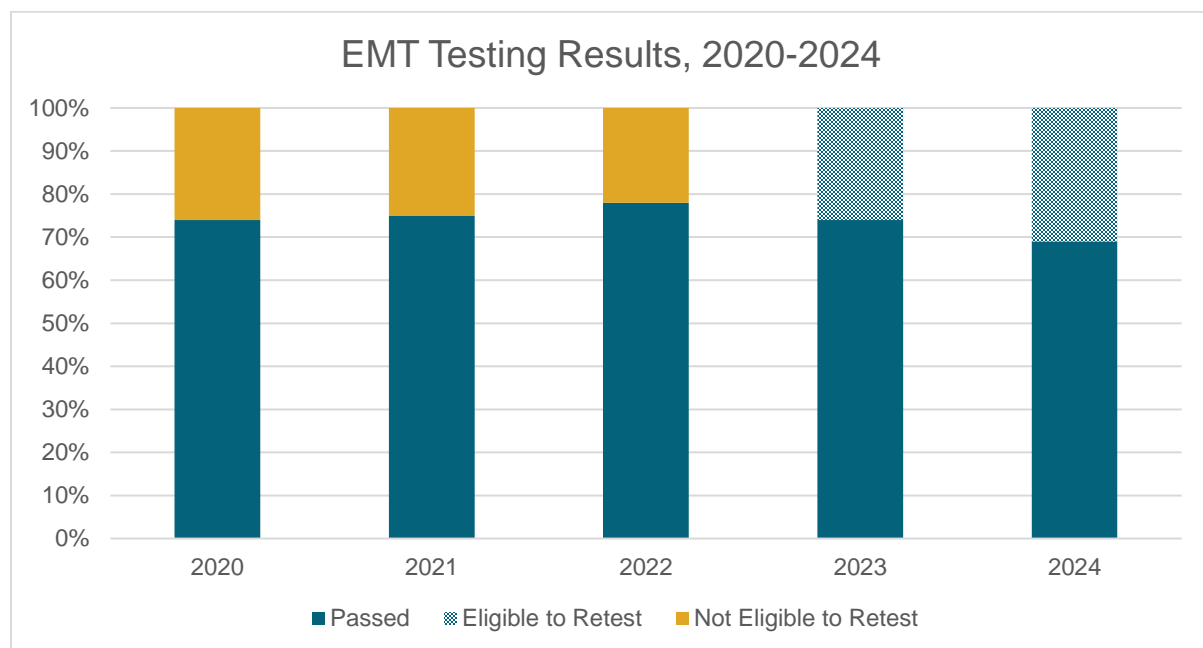


Figure 10: Iowa EMT Testing Results, 2020 - 2024

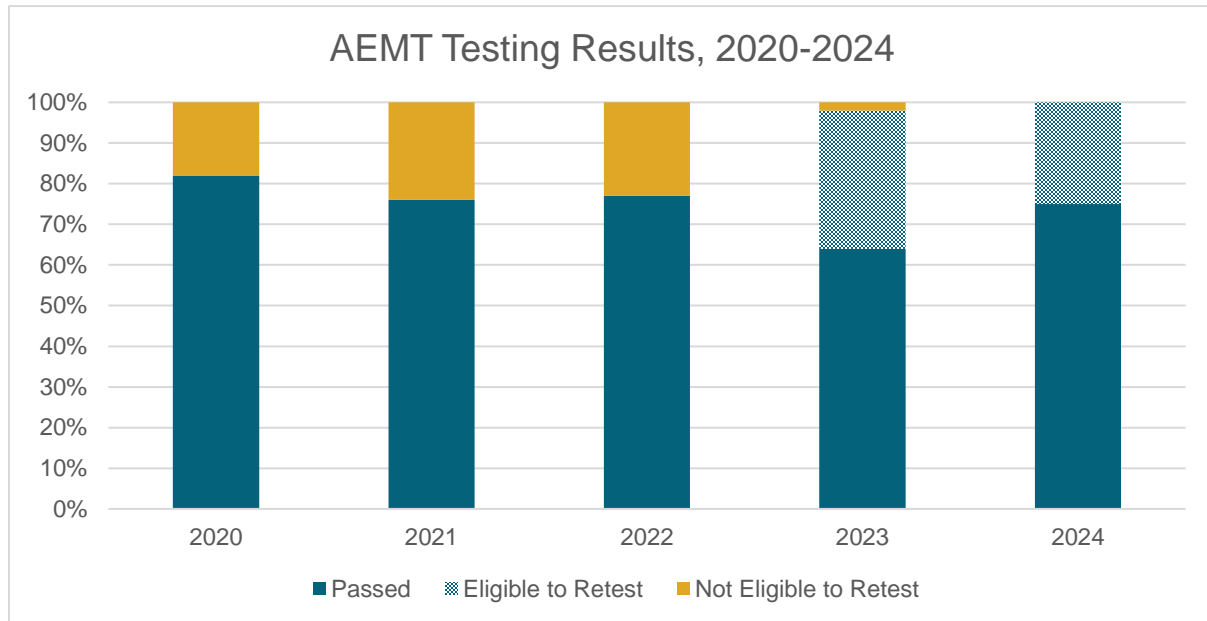


Figure 11: Iowa AEMT Testing Results, 2020 - 2024

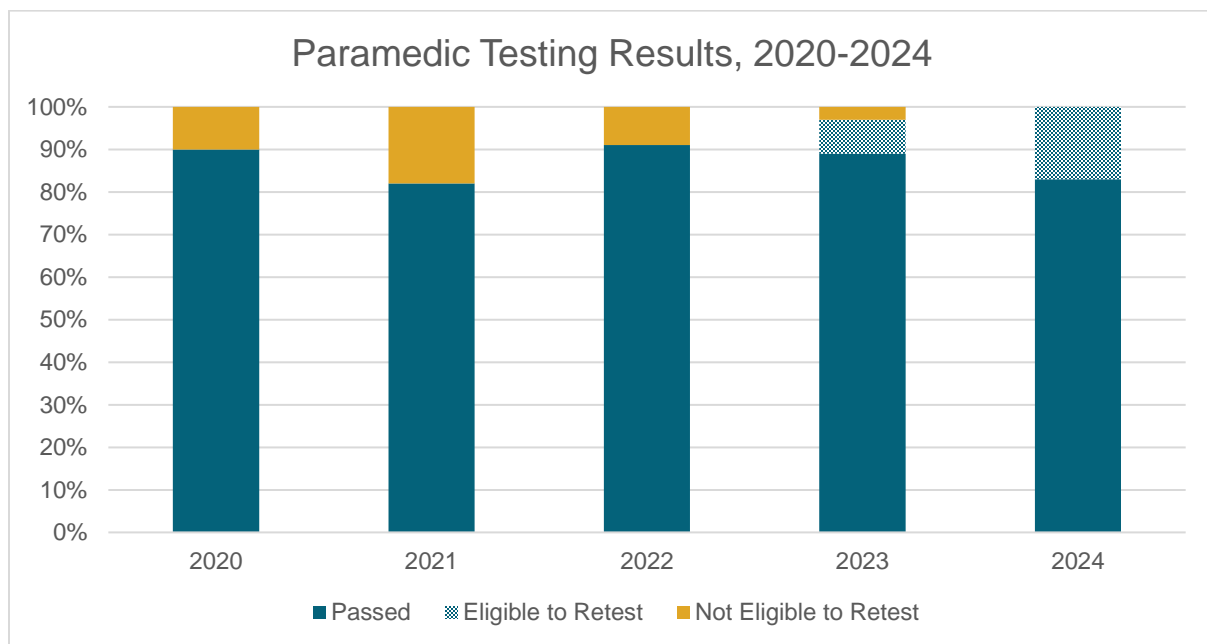


Figure 12: Iowa Paramedic Testing Results, 2020 – 2024

The data shows that 13% of candidates failing the first attempt do not take additional attempts at the exam. Of those who do take additional attempts, approximately 50% ultimately pass the exam.

# EMS Service Programs

## Authorization Types

Throughout 2024, the number of EMS services remained stable with 724 providing service from 901 locations. The map below shows the service locations of all Iowa-authorized EMS agencies by full authorization level.

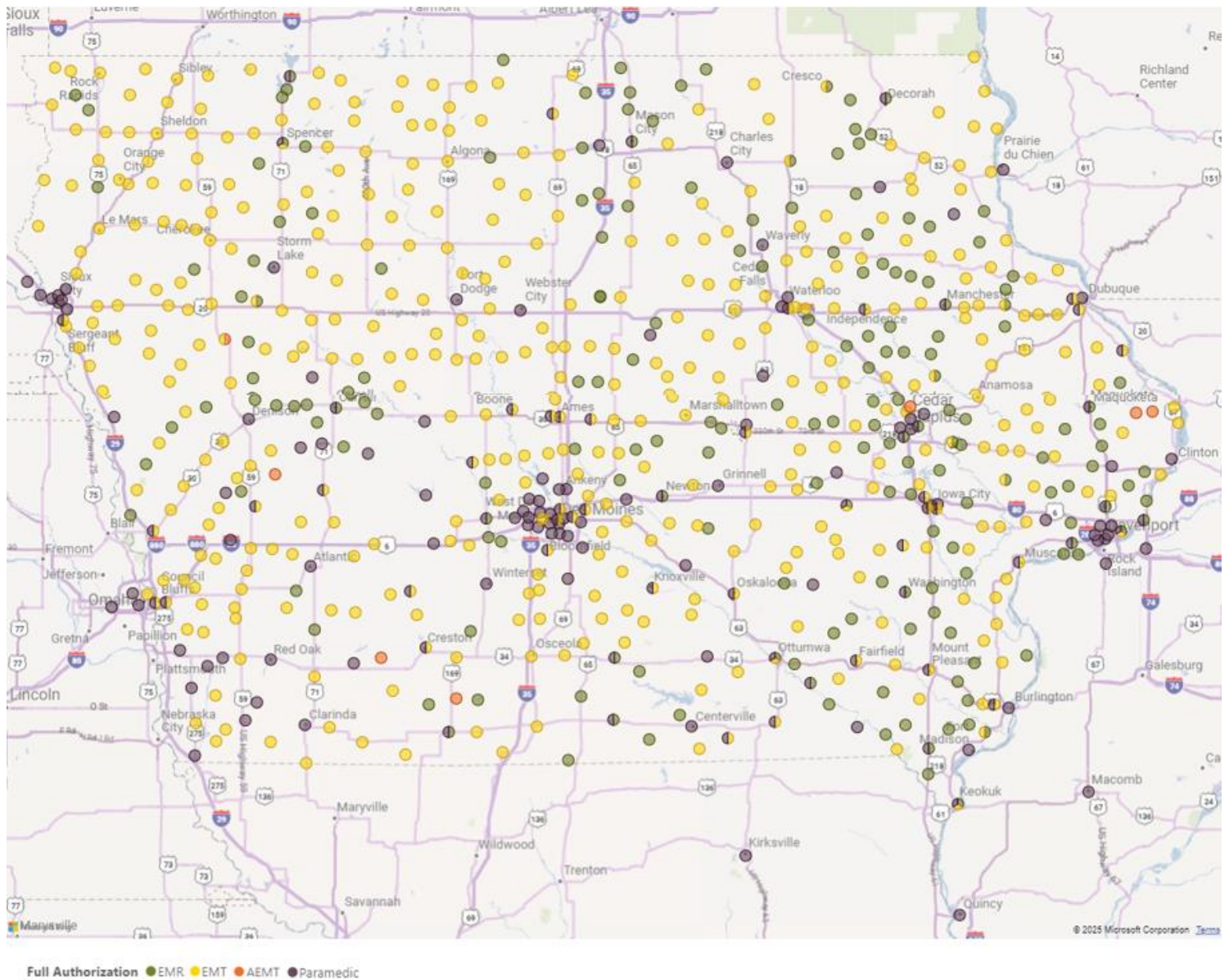


Figure 13: Iowa EMS Service Locations by Full Authorization Level



The following map displays the service locations in Iowa categorized by non-transport, ambulance transport, and air medical transport services.

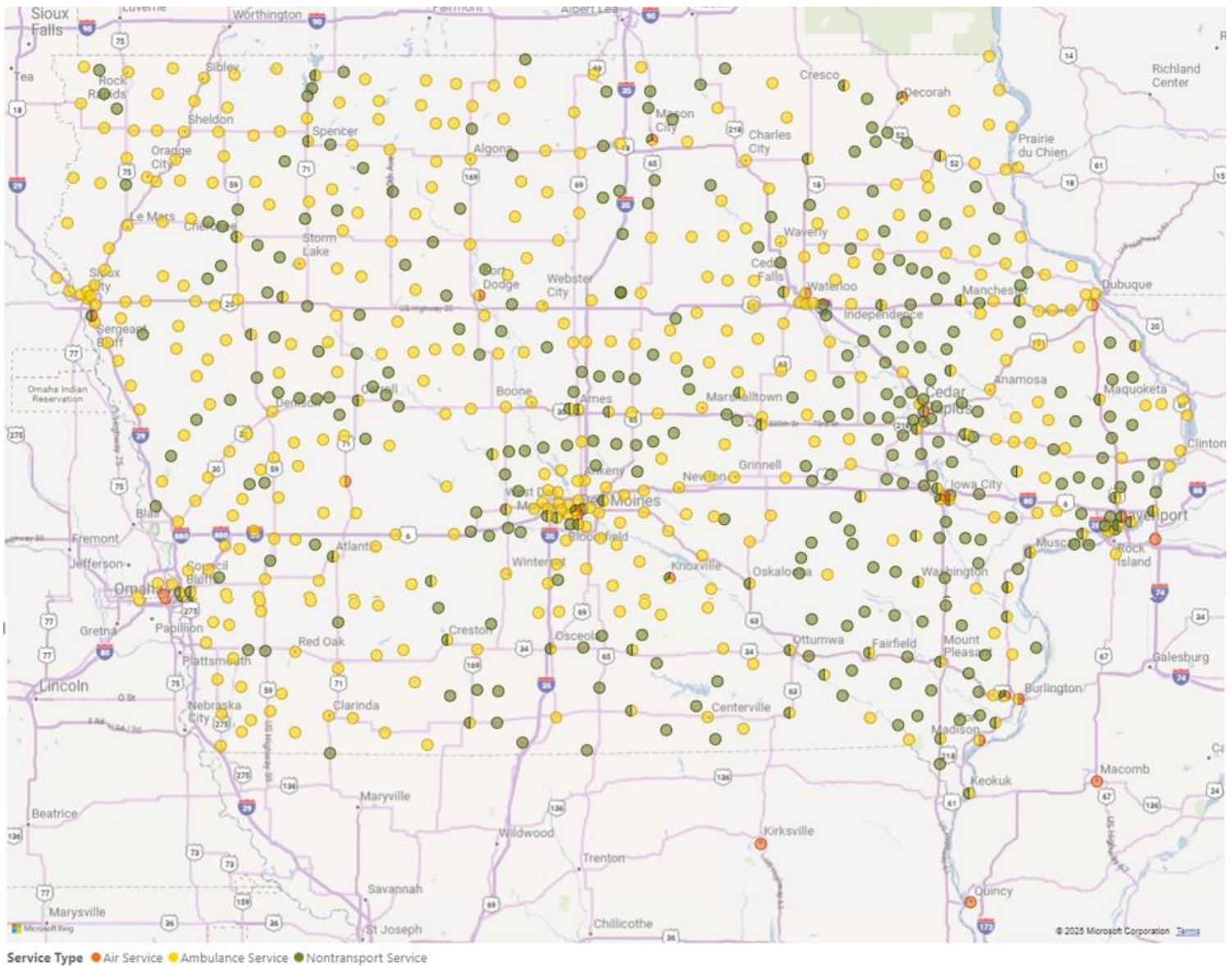


Figure 14: Iowa EMS Service Locations by Type of Service

## Incidents Reported

Since 2022, the number of incident reports submitted to the state EMS incident registry has remained level, with a total of 459,599 incidents submitted in 2024.

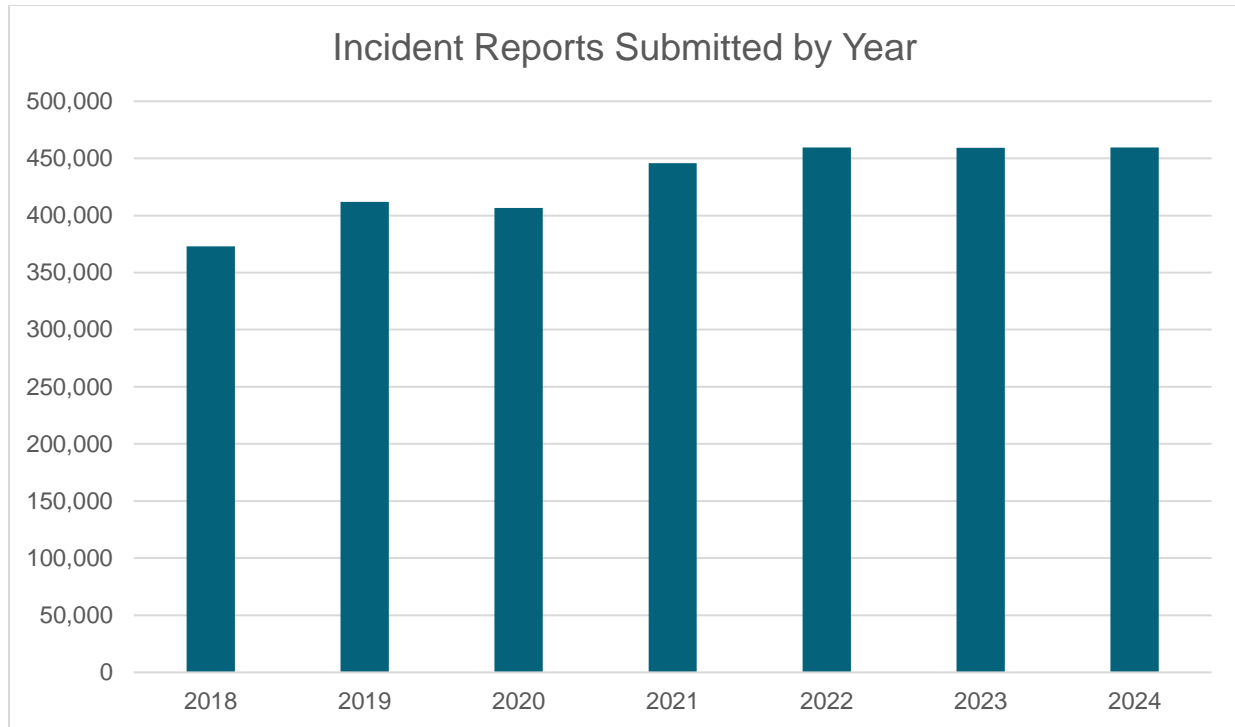


Figure 15: Incident Reports Submitted by Year

## Summary

There were positive changes in Iowa's EMS community in 2024. With these changes comes increased responsibility on the part of EMS clinicians, leaders, and BEMTS to guarantee that these trends continue.

An influx of younger clinicians to the industry may indicate a growing interest in EMS as a career and could potentially provide some long-term relief to the staffing shortages experienced over the last several years. This also signals a need for strong orientation and mentorship within EMS agencies to ensure that new, young clinicians are provided a solid foundation and guidance in EMS careers. An overall increase in the number of clinicians in the state and an increase in the level of education and certification obtained will result in a greater need for quality continuing education opportunities.

With one-fifth of all counties utilizing a tax levy to support local EMS agencies, local EMS leaders have an increased responsibility to use funding effectively, efficiently and transparently, ensuring that the citizens' tax dollars are providing this important service to the county.

Improving EMS education in Iowa should be a top priority. This responsibility lies with all entities and individuals involved in EMS. Training programs should adequately screen student applicants to ensure that students have the capacity to succeed in an EMS course and on the NREMT exam. The level of effort required by the student to succeed must be clearly communicated and understood. Instructors must provide high quality education and guidance to students. Clinical sites and preceptors should ensure that the students' time spent in clinical rotations is highly educational and should ensure that the instruction provided in the field aligns with the educational standards used in the classroom. BEMTS will provide greater support and guidance to training programs, preceptors, clinical sites, and students to help ensure success.

By focusing on these aspects of the EMS environment, EMS in Iowa can reach new heights.

## Data Sources

Iowa EMS Registry: This registry contains data from EMS run reports for all Iowa-authorized EMS agencies. Data was obtained from this registry at <https://iowa.imagetrendelite.com/elite/organizationiowa/>.

AMANDA Registry: This registry contains all information regarding Iowa-certified individual EMS clinicians and Iowa-authorized EMS services. Data from this registry was used to compile information regarding EMS clinicians and services.

National Registry of Emergency Medical Technicians (NREMT): Data obtained from the NREMT was used to compile passing rates for Iowa EMS candidates and compare Iowa testing data to national testing data.