

2022 Ohio EMS Workforce Surveys

**A Focus on Recruitment
and Retention
September/2022**

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EXECUTIVE SUMMARY

Recruitment and retention of qualified ambulance practitioners is a multifaceted effort that can be impacted by agency culture and leadership practices utilized in recruitment. A survey-based study was conducted in Ohio in April and May of 2022 to obtain the perspectives of critical stakeholders and subsequently provide insight into methods and initiatives increasing the success of ambulance agency recruitment efforts.

This study included three groups: Ohio EMS agency administrators; EMT, AEMT, and paramedic students; and state-licensed EMTs, AEMTs, and paramedics who are not working for an Ohio licensed EMS agency.

Ohio ambulance agencies have expressed having significant challenges in recruiting practitioners to their agencies, with no sign of becoming less complicated after two years of the pandemic. Some 62% of the Ohio EMS agency administrators responding to the survey report that they have had unfilled positions for six months or more during the past year. This study uncovered several factors complicating recruitment. For example, the typical hourly rate Ohio EMS agencies pay paramedics with 1-5 years of experience is nearly 58% less than the “realistic” hourly wage desired by students preparing to enter the profession. Correcting deficits in wages and leadership will attract new practitioners while increasing the retention of existing practitioners.

The study also found that 75% of EMT, AEMT, and paramedic students wish to seek employment with an agency, while 11% are unsure. Combined, 86% of students are potential candidates for EMS agency jobs in Ohio, yet only 22% report being recruited by an Ohio EMS agency.

In response to open-ended questions, students and unaffiliated practitioners frequently identified poor leadership of an agency and problems with organizational culture as factors that drive the potential practitioner from a specific organization or cause a practitioner just entering the profession to avoid recruiting agencies based on their common reputations.

As recruitment challenges are addressed in multiple ways within Ohio, it is incumbent on agency and state leadership to focus on resolving staffing shortage challenges by developing and deploying a statewide recruitment strategy to avoid unproductive competition between ambulance agencies.

RECOMMENDATIONS

“Recruitment and retention are not separate events – they are part of a process” termed recruitment, for which an organization should recruit for retention (Tim Skinner, 2016). The following recommendations will directly impact the recruitment and retention of EMS practitioners in Ohio by taking a purposeful and proactive “employer of choice” perspective.

Initiatives that could positively impact the recruiting difficulties currently being faced in Ohio included offering a wage for EMS practitioners that is closely in line with the salary those eligible for recruitment expect, a high-powered statewide collaborative recruiting effort, a statewide leadership improvement, and development effort, as well as a statewide plan to utilize EMS practitioners more effectively.

RECOMMENDATION #1**Low wages for practitioners must be addressed.**

Potential recruits have wage expectations for when they enter the EMS workforce. By extension, it can be argued that practitioners already employed by an EMS agency in Ohio also have such expectations. The data shows that wage expectations of the students are nearly 1.5 times greater than the data indicates is being paid by EMS agencies. Similarly, the data demonstrate that 60% of EMS practitioners certified but not working indicate poor compensation as one reason they are not working for an EMS agency.

The wage disparity between what practitioners expect and the wages paid by ambulance agencies in Ohio must be addressed.

RECOMMENDATION #2**All potential practitioners must be effectively recruited.**

The survey indicates that students are not adequately or effectively recruited, agencies are experiencing prolonged periods with open positions waiting to be filled, and diversity in ambulance agencies is likely not reflective of the communities' demographics. Nurturing the collaboration of recruitment by multiple ambulance agencies can provide a solid foundation for addressing several recruitment issues effectively and efficiently.

A collaborative statewide recruiting initiative with practical incentives for use by multiple ambulance agencies with a significant focus on building diversity, equity, and inclusion for all ambulance services in Ohio should be initiated.

RECOMMENDATION #3**Agency leadership must be progressive, responsive, and insightfully intuitive in understanding and meeting the expectations of practitioners.**

Ambulance agency leaders must be fully equipped to provide excellent leadership. In periods of staffing shortages, any missteps by leadership may likely be magnified beyond generally expected levels, which may, at best, cause confusion and, perhaps over time, lead valuable EMS practitioners to leave the agency. Embracing an established education and using a well-defined certification methodology will increase the professionalism of the leader and cause the organization to move beyond “self-injury” caused by leadership missteps.

A statewide plan should be developed to address leadership training for all ambulance leaders in Ohio.

RECOMMENDATION #4

Existing and future practitioners must be used to meet Ohio's agencies' needs effectively.

Staffing shortages are moving towards a critical level. It is prudent to have a plan developed to address how requests for ambulance agency responses in Ohio will be handled if the “worst case scenario” impacts a specific geographical area and there are no staffed ambulances available to respond in a particular area. Engaging ambulance agencies in an effort – perhaps having them submit a written plan of how they will address such an issue in their local area – could lead to developing a statewide plan to address the issue on a macro scale.

All Ohio EMS agencies should collaborate in developing and executing a plan to maximize the effective and efficient utilization of practitioners employed in and available for employment in Ohio.

BACKGROUND

OHIO STUDY OBJECTIVES

The Paramedic Foundation (TPF) was engaged by the Ohio Department of Health's State Office of Rural Health (SORH) and the Ohio Division of EMS (ODEMS) to conduct an Emergency Medical Services (EMS) workforce assessment. The assessment was explicitly designed to gather data from EMS agency administrators, students, and EMS practitioners who are certified but "unaffiliated" (not working for an Ohio EMS agency) related to the recruitment and retention of the EMS workforce in Ohio. This effort was funded by the SORH using federal Medicare Rural Hospital Flexibility Grant program (FLEX) funds.

Much anecdotal information has been collected nationwide and worldwide that points to specific issues that may be the root causes negatively affecting recruitment and retention. Fewer data based on practitioner and agency input would allow a systematic analysis to build the body of knowledge about EMS recruitment and retention.

TPF approached this study adhering to conventional research standards and relying on the expertise of skilled social science researchers with professional experience and knowledge in emergency medical system research, operations, and methodologies. Surveys created to collect data for this research were developed and built on accepted research data collection procedures.

Three uniquely identified groups were surveyed: (1) ODEMS licensed EMS agency administrators, (2) current students in EMT, AEMT, and paramedic education programs at ODEMS-approved training institutions; and (3) unaffiliated ODEMS certified practitioners, defined as those not presently working as an EMS practitioner for a licensed EMS agency.

Objectives were mutually agreed upon by TPF, the SORH, and the ODEMS:

- Ohio EMS Agency Survey: To understand the hiring practices, recruitment and retention challenges, and opportunities for Ohio EMS agencies.
- Student Survey: To understand why students entered an EMS certification education program and their expectations from potential EMS agency employers.
- Unaffiliated Practitioner Survey: To understand what factors prevent trained and certified EMS providers from entering the workforce as Ohio ambulance-based practitioners or affiliating with an ambulance service.

METHODOLOGY

STAKEHOLDER STUDY OVERSIGHT

TPF and the ODEMS designed Student, Unaffiliated Practitioner, and Agency surveys. A small number of EMS agencies selected by ODEMS from an ODEMS rural EMS advisory committee approved the survey questions.

SURVEY DATA & METHODS

The ODEMS distributed a single survey link (anonymous data collection) to all ODEMS licensed EMS agencies (n=1,707), another single link to all ODEMS certified practitioners without any EMS agency affiliation (n=11,822) via GovDelivery email accounts maintained by ODEMS; and a third single survey link to all approved training institutions (n=90) with a request they forward the student survey link to their students via their internal email systems. The timeline followed was:

- ODEMS sent initial survey invitations on April 13, 2022
- ODEMS sent reminders on April 29, 2022
- surveys closed on May 6, 2022.

Demographics requested from each respondent included:

- age
- gender identity
- sexual orientation
- marital/relationship status
- race and ethnicity
- disabilities
- first language(s) spoken at home, and
- the housing situation.

The survey constructed for the unaffiliated practitioners included questions that explored the reasons the unaffiliated practitioners are not currently working in Ohio as ambulance EMS practitioners. The unaffiliated survey was designed for practitioners that did not have an agency affiliation listed in their certification record. In addition, students and unaffiliated EMS practitioners answered questions related to:

- degrees or certifications held
- prior ambulance experiences
- wages expected
- recruiting efforts by Ohio and non-Ohio EMS agencies that they have encountered, and
- type of job and employer they may or will seek upon graduation.

In addition to the demographics requested, students were asked about:

- the college or training program in which the student is enrolled

- type of degree or certification the student holds, and degree or certifications being pursued
- prior ambulance experience
- hourly wage expectations
- recruiting efforts that they encountered
- type of employment they were or would be seeking, and
- potential employer practices they viewed as favorable or unfavorable.

For the agency survey, agency administrators were asked about:

- type of ambulance agency they manage
- the level of service they provide
- difficulty experienced in recruiting and retaining staff
- several recruitment and retention management practices, and
- staffing and workload practices and specifics.

The agency survey asked agencies to consent to provide their identified response to the ODEMS; one declined. ODEMS was provided the raw data for those that agreed.

ANALYSIS

TPF computed descriptive statistics for quantitative survey items and coded open-ended question responses using an inductive approach, identifying and summarizing meaningful themes. The data analysis relied on Microsoft Excel for Mac, version 16.63.1.

SURVEY FINDINGS

Table 1: Survey Response Rate

	Unaffiliated	Student Surveys Sent To Schools	Agency Administrators
Surveys Sent	11,822	90	1,707
Response Rate	14% (N=1,659)*	118	16% (n=274)

** Of these, 863 (7%) reported being unaffiliated with an EMS agency. The remainder indicated they were affiliated with an EMS agency, so their responses are not included below.*

DEMOGRAPHICS

Table 2: Age of Respondent

Age of Respondents	Unaffiliated	Students	Agency Administrators
Under 18	0%	2%	0%
18-29	17%	75%	3%
30-39	22%	17%	15%
40-49	19%	3%	26%
50-59	23%	0%	35%
60-69	14%	0%	17%
70 or greater	3%	0%	2%
I prefer not to answer	1%	3%	1%

Table 3: Sexual Orientation

Sexual Orientation	Unaffiliated (n=863)	Students (n=101)	Agency Administrators (n= 172)
Straight	84%	87%	92%
Gay or lesbian	3%	1%	1%
Bisexual	3%	6%	1%
Transgender, transsexual, or gender non-conforming	1%	0%	0%
I prefer not to answer	9%	6%	7%

Table 4: Gender Identity or Expression

Gender Identity/Expression	Unaffiliated (n=851)	Students (n=99)	Agency Administrators (n=)
Woman (assigned at birth)	35%	35%	11%
Man (assigned at birth)	57%	61%	82%
Transgender or transsexual, male to female	0.4%	0%	0%

Transgender or transsexual, female to male	0.1%	0%	0%
Gender non-conforming	0.0%	0%	0%
Non-binary	0.2%	1%	0%
I prefer not to answer	5%	2%	5%
Prefer to self-describe	2%*	1%*	1%*

* Responses were not appropriate and are not included.

Table 5: Race Identity

Race Identity	Unaffiliated (n=863)	Students (n=109)	Agency Administrators (n= 174)
American Indian or Alaska Native (e.g., Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.)	2%	6%	2%
Black (e.g., African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc)	2%	8%	1%
Chamorro	0.0%	0%	0%
Chinese	0.1%	0%	1%
Filipino	0.0%	2%	0%
Japanese	0.5%	0%	0%
Korean	0.0%	1%	0%
Latin American	0.8%	2%	1%
Native Hawaiian	0.0%	0%	0%
Pacific Islander (e.g., Fijian, Tongan, Marshallese, etc)	0.0%	0%	0%
Samoan	0.0%	0%	0%
South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)	0.2%	0%	0%
Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai, etc.)	0.0%	0%	0%
Vietnamese	0.2%	0%	0%
West Asian (e.g. Iranian, Afghan, etc.)	0.0%	0%	0%

White (e.g., German, Irish, Italian, English, Egyptian, Lebanese, etc)	87%	75%	90%
I prefer not to answer	6%	5%	6%

Table 6: Reported Disabilities

Reported Disability	Unaffiliated (n=935)	Students (n=97)	Agency Administrators (n= 171)
Communications	0.2%	2%	1%
Developmental	0.3%	0%	0%
Dexterity	1%	0%	0%
Flexibility	4%	0%	3%
Hearing	2%	2%	5%
Learning	1%	2%	0.6%
Memory	1%	2%	2%
Mental health related	5%	5%	3%
Mobility	5%	0%	1%
Pain-related	7%	0%	3%
Seeing	0.5%	1%	2%
None of the above	65%	77%	74%
I prefer not to answer	5%	6%	5%
Disability not listed above	3%	2%	0%

Table 7: First Language Learned at Home

First Language	Unaffiliated (n=872)	Students (n=105)	Agency Administrators (n=172)
English	92%	87%	92%
I prefer not to answer	2%	7%	4%
German	1%	1%	2%
Spanish	2%	1%	1%
Chinese	0.1%	0%	1%
Dutch (including Afrikaans, Yiddish, Pennsylvania Dutch)	0.2%	3%	1%
Sign Language	1%	1%	0%
French	0.3%	0%	0%
Russian	0.3%	0%	0%
Arabic	0.2%	0%	0%

Another Language	1%	0%	0%
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Table 8: Marital Status

Marital Status	Unaffiliated (n=834)	Students (n=99)	Agency Administrators (n=171)
Married or domestic partnership	23%	22%	74%
Divorced	63%	2%	13%
Single, never married	1%	72%	5%
I prefer not to answer	9%	3%	4%
Separated	1%	1%	2%
Widowed	2%	0%	2%

Table 9: Housing Status

Housing Status	Unaffiliated (n=829)	Students (n=99)	Agency Administrators (n=170)
Homeowner	73%	23%	91%
Renter	17%	31%	8%
Living with others but not paying rent or mortgage	5%	32%	1%
Living with others and assisting with paying rent or mortgage	5%	13%	0%
Unhoused	0.4%	0%	0%

Table 10: First Generation College Student

First Generation College Student	Unaffiliated (n=821)	Students (n=99)	Agency Administrators (n=170)
Yes	38%	23%	43%
No	62%	77%	57%

WAGES

Table 11: Desired Wages vs. Typical Wages

Wage Contradiction	Students Desired Wages (n=114)	Agency Administrators Typical Wages (n=167)
Average	\$28.44	\$19.09
Maximum	\$45.00	\$90.00*
Minimum	\$15.00	\$4.50
Median	\$29.42	\$17.00

*A seemingly aberrant number was reported and could not be explained; it was left in for accurate data handling. The second highest value was \$37.77.

RECRUITMENT

Most (73%) agency administrator survey respondents reported that recruitment is “extremely” or “very challenging,” while 62% of 196 agency administrators reported their agencies had experienced open positions for six or more months during the past year.

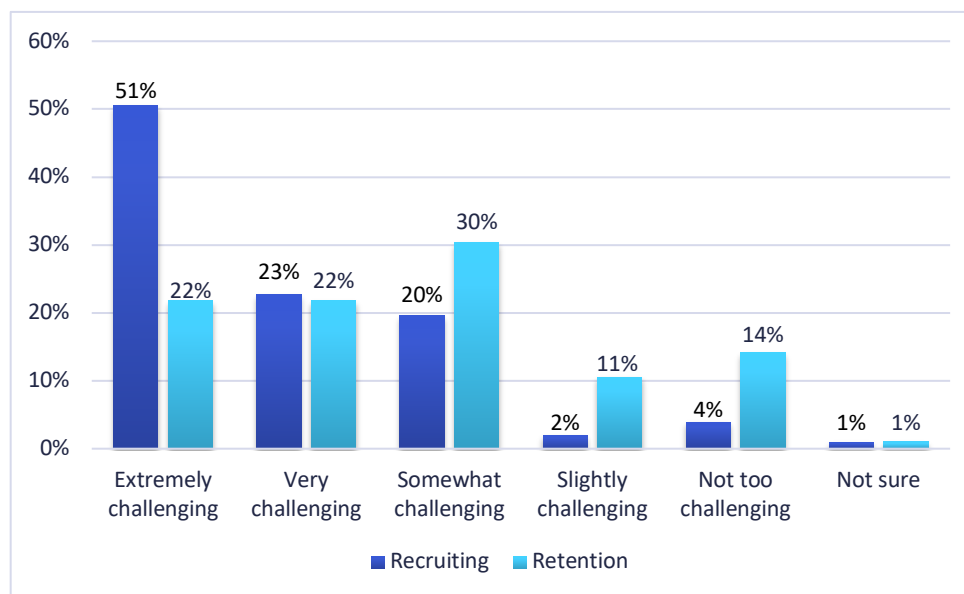


Figure 1: Reported Difficulty with Recruitment and Retention

Fewer than a quarter (22%) of students reported being contacted by an Ohio ambulance agency in a recruiting effort; 3% reported recruitment from a non-Ohio agency. Students reported the following unappealing aspects of recruitment:

- Low wages
- Scheduling
- Lack of benefits

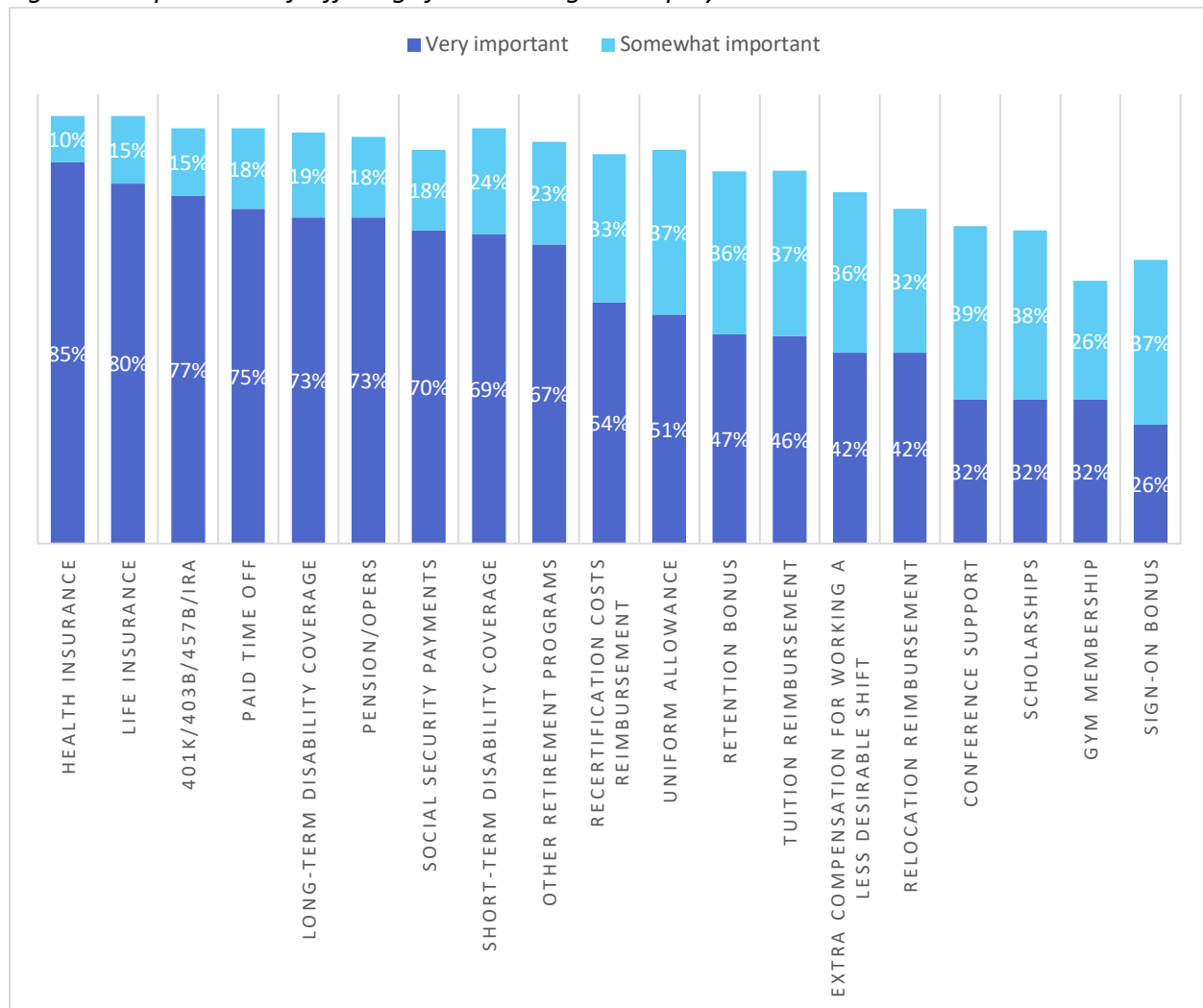
- Poor leadership
- Poor culture
- Location/Commute
- Reputation of organization
- Outdated equipment

Of 104 students responding, 75% are looking for full-time, part-time, or either full or part-time employment with an ambulance agency, while 11% are unsure. Of those whom an ambulance agency has recruited, the recruitment effort's most commonly reported unappealing element was the low wages offered. Distrust of the company and the ambulance agency's culture were the most commonly cited unattractive features.

Students reported that licensed EMS agency recruitment messaging is diminished by preconceived concerns about an organizational reputation as well as concerns about low wages.

Table 12: Prior Ambulance Agency Experience

Prior Ambulance Experience	Unaffiliated	Students
None	19%	42%
Less than 1 year	12%	24%
1-5 years	17%	28%
6-10 years	12%	3%
More than 10 years	40%	3%
Responses	203	118

Figure 2: Importance of Offerings for Selecting an Employer

DISCUSSION

STAKEHOLDER VALIDATION OF DATA

Four meetings were held using Microsoft Teams to accommodate daytime and evening schedules. ODEMS sent invitations to all recipients of the three surveys with information on meeting specifics. A total of 56 stakeholders, not including ODEMS or the SORH staff, attended one or more of the meetings. The TPF researchers presented each of the three surveys and provided an opportunity for stakeholders to ask questions or to provide commentary back to the researchers.

Stakeholders appreciated the work completed in the survey and affirmed their support of the design and wording used within the study. The study brought to light different areas and topics that were being overlooked by the stakeholders before seeing the results. One of the first findings the stakeholders expressed concern over was the general aging of the EMS workforce. In conjunction with the aging workforce, it was also noted that the younger practitioners (unlike some older practitioners) are not as involved in their communities.

Another aspect of the survey that stimulated multiple conversations was the language spoken in respondents' homes. This question proved to help the stakeholders understand diversity and community composition by providing the following consideration. One stakeholder commented:

"The United States has many immigrants that are highly medically trained. And so that would imply speaking at least some other language in addition to English, and I haven't really thought about it or found out about this at the levels of ambulance and prehospital medicine, so much as in hospital medicine. It's exciting to think that many people who come here and speak two or three languages have some medical training or interest but may not have been connected to our ambulance agencies."

One stakeholder commented:

"I speak Spanish as a second language; it is exciting to see that others also have a different first or second language so we can reach out more comprehensively socially in society. I think asking what the first language spoken at home is the right question to ask."

While age of the workforce and the cultural background of providers were big conversation pieces, the significant disparity between wages expected by practitioner students and wages provided by agencies was shown to provide the deepest concern. The general sentiment being that this issue will never be able to be resolved without a complete change in the system and within the profession.

The wage disparity did lead stakeholders to understand how wages are a primary consideration for future EMS practitioners. This was heard as a positive point by stakeholders participating in the webinar, who then expressed that students and unaffiliated practitioners would likely be positively impacted if a higher pay rate were offered and that they are not avoiding the profession because of stress or anxiety. This conclusion came from the fact that sixty percent of the 671 responses of the unaffiliated selected poor compensation as a reason they are not working in EMS. This was cemented by a comment from an unaffiliated practitioner participating as a stakeholder who reported living in a very rural area and that the results aligned with the stakeholder's personal experience: "I can't afford to work for an ambulance agency. If it were just a dollar or so an hour difference in pay, I would, but I cannot handle a large wage cut; I need to be able to support myself and my family."

One of the final webinar stakeholder's comments is to be noted. The stakeholder offered the personal perception concerning those within the groups surveyed by stating, "We still have some sticks in the mud that might be stuck in the past with racism and other things going on."

DEMOGRAPHICS

The respondents overall can be characterized as dominantly male, white, straight, and with English as their birth and only language.

The students can be characterized as early in their career, ready to enter the workforce, and those early- to mid-career increasing their level of practitioner certification. While dominantly male, one-third are female. While diversity across all groups is minimal, students are the most diverse group. The students also have, while a small number, the most significant number in any group where English was not the first language they grew up with. They are not homeowners and are more likely to be living with others.

The unaffiliated can be characterized as balanced across age groups and at all career stages. They are the only group where a small number have self-identified as transgender. They are more likely to have a disability. Almost two-thirds of the unaffiliated group are divorced, and three-fourths are homeowners.

Agency administrators are mid to late-career. They are the least diverse group, the highest percentage of married and homeowners.

WAGES

Paramedics, AEMTs, and EMTs are not being paid an hourly rate that provides a living wage for most people living in Ohio. There is a significant disparity between the hourly pay offered by agencies and what the students expect when they finish training.

According to the Massachusetts Institute of Technology's "Living Wage Calculator" (<https://livingwage.mit.edu/states/39>), the chart below shows living wages for Ohio households. The state minimum wage of \$9.30 is the same for all individuals, regardless of how many dependents they may have. The poverty rate reflects a person's gross annual income. We have converted it to an hourly wage for the sake of comparison as follows:

Table 13: Ohio Living Wage Calculator

1 Adult					2 Adults (1 working)			
Number of Children	0	1	2	3	0	1	2	3
Living Wage	\$15.61	\$31.60	\$40.60	\$54.52	\$24.52	\$29.25	\$34.83	\$37.60
Poverty Wage	\$6.19	\$8.38	\$10.56	\$12.74	\$8.38	\$10.56	\$12.74	\$14.92
Minimum Wage	\$9.30							

The living wage shown is the hourly rate that an **individual** in a household must earn to support themselves and their family. The assumption is that the sole practitioner works full-time (2,080 hours per year). This simplified table provides information for households with one working adult (a household with more than one working adult would yield different estimates). When considering a two-adult household and only one adult working with children, this household would not have the childcare expenses that a single adult with children would. This results in an understandably increased wage requirement for single parents. By these measures, the typical wages reported by Ohio agencies do not constitute a “livable wage.”

In Ohio, wages for paramedics, AEMTs, and EMTs need to increase to attract and retain qualified EMS practitioners. Many options have been explored and discussed over the history of EMS to provide a livable wage for practitioners. Few have been deployed. Whether the solution is engaging local, state, and federal legislative bodies to provide long-term, ongoing funding to support increasing salaries or whether the key is finding ways to diversify EMS into other reimbursable health care functions without sacrificing the central part of out-of-hospital care, change must occur. EMS agencies must be flexible and willing to reconsider all options, including consolidation or a very high level of cooperation and collaboration. To increase wages, EMS agencies can no longer continue business as usual, using financial methods and techniques with which most agencies are familiar and comfortable. Before making changes, the questions “Can we share this equipment?” or “Do we need to replace this costly piece of infrastructure for our exclusive use” or “Does a neighboring service can include us in use of their infrastructure?” are asked and answered.

In addition, in a targeted manner, EMS agencies must ensure third-party reimbursement covers the cost of doing business. The price of doing business must include providing a living wage to those who competently stand at the front lines caring for the people in their communities.

The entire topic of paying practitioners a living wage should become the focus of a broad-based, fast-acting group with authority to make changes. As noted, making wage changes will positively impact Ohio ambulance agencies' recruiting efforts.

RECRUITMENT

Finding qualified EMS practitioners to fill agency rosters is difficult for all licensed EMS agencies. Low wages, distrust of the EMS agencies, and a poor or negative culture of the ambulance agency are all factors creating unappealing recruitment efforts. These concerns could reduce the number of responses to organizational recruitment messaging. A comprehensive recruitment plan should be developed for use throughout Ohio. Territorial issues must be set aside if and where they exist, and a high level of collaboration and cooperation across the state must be embraced. Using a collaborative statewide strategic approach may enable agencies to attract the type of future practitioners they anticipate would add the most depth to their workforce, including seeking candidates with a specific amount of past ambulance experience.

Every student trained in Ohio must be engaged in an effective and professional recruitment meeting. The material presented must be based on meeting the expectations of the student in as many areas as possible – including wages, retirement benefits, health insurance, paid time off, equitable and manageable call volume expectations, and other factors identified in this study. In a spirit of cooperation, from a high-level perspective, it is necessary to embrace the idea that where the student works in Ohio is secondary to being successfully recruited to work in Ohio. To that end, professional recruiters should be used. Perhaps hospitals or hospital systems could fill a role like this for ambulance agencies with minimal incremental cost to the hospital. Key ambulance agency leaders committed to the values and strategies of a comprehensive recruitment effort in Ohio could be trained to help provide the necessary one-on-one contact. To make an effort relevant, it must consider and address positively those issues prospective practitioners know are most important.

Seventy-five percent of students receiving training in Ohio report that they plan to work for an ambulance agency. Yet, fewer than 1 of 5 students (25 of the 112 surveyed) have been recruited by an Ohio ambulance agency. (Perhaps the good news is that non-Ohio ambulance agencies have recruited only 3% of 112 students!) This means that in a market in dire need of qualified practitioners to staff ambulance agencies, the developing resource of students in Ohio training programs is being overlooked. Those students apparently must “go looking” for an excellent place to work.

Similarly, stakeholders report that several people have trouble joining volunteer departments or would like to join the department but perhaps have not been sought out. Either way, even if the group desiring to enter is small – perhaps as few as one, two, or three people, delaying “finding them” and integrating them into the ambulance agency allows workload and personal stress among existing personnel to continue and, in time, will produce increased pressure both professionally and personally.

One stakeholder conveyed that recruiting outstanding leadership and potentially great practitioners is essential: “Perhaps we need two pipelines, one for EMS practitioners and one for EMS leaders, both with training before and even after becoming members of a licensed EMS agency in Ohio.”

Another stakeholder asserted that a widespread recruiting effort is needed in Ohio, contending that using tools such as Facebook, EMS conference attendance, and local ads are less effective than required. This stakeholder says moving to the kind of effort in which the resources of many agencies are pooled, and all focused on common tactics. Examples include attending county fairs and other public events with effective, professionally prepared messages to attract local recruits. Another strategy used by a stakeholder that can be incorporated on a broader basis is an academy model – hiring untrained personnel and paying them from “day one” as they go through training leading to the certification level desired for the recruit. This academy approach is being used in at least one Ohio agency and is reported as highly effective. It encourages other agency practitioners to see the recruits progressing while at the same time slowly being fully integrated into the EMS agency and its culture.

Workplace culture impacts current and future agency practitioners and may cause recruits to move toward or away from choosing to join a specific EMS agency for employment. One stakeholder said an additional examination of negative workplace culture is needed. Several stakeholders commented that workplace culture grows out of those working there, not just the leadership, and perceive an ever-increasing lack of professionalism permeates many EMS agencies. As a result, the reputation of the agency, the practitioners, and the general EMS may be tarnished.

Participating stakeholders that are seasoned practitioners and educators offered a common concern that younger students in training tend to use foul language even while doing practical education scenarios and working through algorithms. Instead of using terminology commonly used by professionals, some students allegedly choose to speak in an unprofessional manner. For example, some students use the phrase, “I just bust them,” instead of using the word “defibrillation” and describing the patient care function as “I attempted defibrillation.” To answer their concerns, stakeholders agreed that attention needs to be given to encouraging common sense and training future practitioners in appropriate manners and professionalism in treatment. Unprofessional practitioners can tarnish or destroy public perceptions in patient care situations. Training future practitioners to be professional will help elevate the profession and positively impact recruitment.

Most ambulance agencies are without adequate staffing as positions go on for six months or more without being filled. Filling open positions is a critical part of operations affecting all aspects of preparedness, response, and employee satisfaction (often negatively affecting shift length, on-duty workload, time off, and more). Candidates already located in Ohio varied

considerably in the years of experience they could bring to the EMS agency. Also, certified but unaffiliated students tend to have more experience than students just entering the profession.

Collaboration between agencies and regionalization and consolidation of resources to achieve necessary recruiting goals and support agencies in times of critical staffing shortages must be considered and implemented as ambulance agencies seek to maintain and improve efficiency and effectiveness. A plan should be created and executed to support collaboration between agencies' infrastructures. When one service is "dying a slow death" due to a lack of personnel or other critical need, sharing staffing resources between agencies should be planned for. This may include coverage of specific periods of call time by assigning one or two EMS practitioners from another ambulance service to the area experiencing the deficit or by relocating fully staffed resources to a location that can cover a larger geographical area, according to a pre-planned strategy. Actions such as this will increase the ability to provide ambulance service.

After careful and unbiased review, it may be necessary to add paid staff to provide coverage to a larger geographic area previously covered by two or three struggling agencies. Collaboration at this level begins to appear much like consolidation and needs to be carefully planned with all governmental and other stakeholders who will be affected.

Recruitment will be difficult without an effective and efficient infrastructure upon which to build a strong agency. This report's findings should inform decisions on critical issues for potential practitioners and Ohio EMS agencies. Practitioners that need to be recruited to ambulance agencies in Ohio are clearly saying they expect a livable wage as a minimum. They expect to have some form of retirement funds, health insurance coverage, and a work-life balance that allows them to enjoy time away from work. Can that be achieved with all 1,707 Ohio EMS agencies operating and duplicating resources and infrastructure, or can a smaller number of agencies provide a more rational and equitable care system through appropriate resource utilization? Maintaining a solid infrastructure and paying staff a wage is more likely to occur when efficiency increases, which can be expected to follow the consolidation of agencies.

LEADERSHIP CHALLENGES

As one stakeholder succinctly reported, "People (practitioners) want to work professional firefighter/EMT/Paramedic jobs so that they do not have to work for a private company." When pressed on this statement, the stakeholder pointed out the perceptions of distrust and lack of respect attributed to some private, volunteer, or partially paid ambulance agencies.

Given the many difficulties facing ambulance agencies presently and the difficulties that will arise in the future, ambulance agencies must address every issue within their control, increasing the strength of the service. The organization's culture will either enhance the service and make it a desirable and sought-after workplace, or it will undermine even the good things that may be done and cause practitioners to avoid working for or making a professional commitment to the service.

Leaders must seek and pay attention to what the students and presently employed practitioners say. Leaders may become “tone deaf” to current, and prospective practitioner needs in their efforts to resolve pressing issues placed on them by their superiors and more significant organizational priorities. But those who are going to be (as well as those who already are) outstanding practitioners have insights that need to be addressed.

As borne out by findings on demographics, the communities served by ambulance agencies and the ambulance agency practitioners are changing. With the increasing diversity in communities and ambulance agencies, leadership cannot and must not continue to be what it has been for the most recent chapter of EMS history. Each leader should look critically at the make-up of the ambulance agency’s leadership team and ask, “Does this team look like me, or does it look like a cross-section of my community?”

Leaders are the ones who must find a means to address changes. Changes needed in EMS will affect wages, benefits, scheduling, existing labor contracts, supply chains, response plans, transport criteria, and much more. Leaders are the ones who must create working solutions to challenges faced and provide practical strategies to gain organizational and governmental support.

Several data points of the survey support the assertion that EMS agency leaders need to be progressive, responsive, and insightfully intuitive in understanding and meeting the expectations of practitioners. In addition to one glaring result, the disparity between actual wages paid and wage expectations of those receiving training to become EMS practitioners in Ohio, data, and comments collected point to the issue of leadership failure in some agencies. Misjudging or understanding responses that need to be made to support EMS practitioners can lead to an organizational culture not conducive to retaining or attracting EMS practitioners.

Each ambulance agency should commit to a well-established leadership training plan. The plan should address present and future leaders and should embrace inputs provided by the ever-increasing diverse pool of future practitioners being trained.

A statewide effort should be used to develop or endorse an already existing leadership training plan. Every ambulance agency in the state should commit to collaborating in a leadership training program such as this once it is established. Measures should be created and kept current to mark the progress of each service and all statewide efforts. One model for this approach is the Attributes of a Successful Rural Ambulance Service, which includes an assessment tool and workbook to provide rural ambulance services with a resource guide. It is available from: <https://www.ruralcenter.org/resource-library/attributes-of-a-successful-rural-ambulance-service-a-workbook>.

The competence of EMS agency leadership can be externally validated by achieving certification by the American College of Paramedic Executives (ACPE) based on the competencies identified in the Seven Pillars of leadership developed and maintained by the National EMS Management Association (NEMSMA). Leaders admitted into the college are designated as competent as a Supervising Paramedic Officer, Managing Paramedic Officer, or Executive Paramedic Officer (known as a Fellow of the ACPE). Establishing a plan to provide each agency leader with education and training in line with these competencies will prepare the leader to execute the leadership role being filled.

In addition to standardized leadership knowledge, perhaps increased confidence can be expected from the community, the governing authorities, the public, the patients, the EMS practitioners serving in the agency, and all who have reason to depend on or interact with the agency.

CONCLUSION

Ohio ambulance agencies have expressed having significant challenges in recruiting practitioners to their agencies, with no sign of becoming less complicated after two years of the pandemic. Some 62% of the Ohio EMS agency administrators responding to the survey report that they have had unfilled positions for six months or more during the past year. This study uncovered several factors complicating recruitment. For example, the typical hourly rate Ohio EMS agencies pay paramedics with 1-5 years of experience is nearly 58% less than the “realistic” hourly wage desired by students preparing to enter the profession. Correcting deficits in wages and leadership will attract new practitioners while increasing the retention of existing practitioners.

RECOMMENDATION #1

Low wages for practitioners must be addressed.

Potential recruits have wage expectations for when they enter the EMS workforce. By extension, it can be argued that practitioners already employed by an EMS agency in Ohio also have such expectations. The data shows that wage expectations of the students are nearly 1.5 times greater than the data indicates is being paid by EMS agencies. Similarly, the data demonstrate that 60% of EMS practitioners certified but not working indicate poor compensation as one reason they are not working for an EMS agency.

The wage disparity between what practitioners expect and the wages paid by ambulance agencies in Ohio must be addressed.

RECOMMENDATION #2

All potential practitioners must be effectively recruited.

The survey indicates that students are not adequately or effectively recruited, agencies are experiencing prolonged periods with open positions waiting to be filled, and diversity in

ambulance agencies is likely not reflective of the communities' demographics. Nurturing the collaboration of recruitment by multiple ambulance agencies can provide a solid foundation for addressing several recruitment issues effectively and efficiently.

A collaborative statewide recruiting initiative with practical incentives for use by multiple ambulance agencies with a significant focus on building diversity, equity, and inclusion for all ambulance services in Ohio should be initiated.

RECOMMENDATION #3

Agency leadership must be progressive, responsive, and insightfully intuitive in understanding and meeting the expectations of practitioners.

Ambulance agency leaders must be fully equipped to provide excellent leadership. In periods of staffing shortages, any missteps by leadership may likely be magnified beyond generally expected levels, which may, at best, cause confusion and, perhaps over time, lead valuable EMS practitioners to leave the agency. Embracing an established education and using a well-defined certification methodology will increase the professionalism of the leader and cause the organization to move beyond “self-injury” caused by leadership missteps.

A statewide plan should be developed to address leadership training for all ambulance leaders in Ohio.

RECOMMENDATION #4

Existing and future practitioners must be used to meet Ohio's agencies' needs effectively.

Staffing shortages are moving towards a critical level. It is prudent to have a plan developed to address how requests for ambulance agency responses in Ohio will be handled if the “worst case scenario” impacts a specific geographical area and there are no staffed ambulances available to respond in a particular area. Engaging ambulance agencies in an effort – perhaps having them submit a written plan of how they will address such an issue in their local area – could lead to developing a statewide plan to address the issue on a macro scale.

All Ohio EMS agencies should collaborate in developing and executing a plan to maximize the effective and efficient utilization of practitioners employed in and available for employment in Ohio.

THE PARAMEDIC FOUNDATION

The Paramedic Foundation (TPF) is a Minnesota non-profit corporation. It is tax-exempt under section 501(c)3 of the Internal Revenue Code as an IRS designated 170(b)(1)(A)(vi) public charity. It has no employees but is overseen by five volunteer directors. Professionals across the country are also contractually engaged for specific projects. TPF headquarters are in Duluth, Minnesota.

TPF has a long history of performing statewide EMS, critical access hospital, and rural EMS evaluations and consultations for dozens of EMS systems across North and South America, Australia, and the Near East. TPF also completed an ambulance rate rebasing analysis for the North Dakota Medicaid agency, which resulted in the governor's enhanced reimbursement in his budget the following year. TPF is the only EMS consulting firm that has ever completed a Medicaid ambulance rate rebasing study in any state.

TPF specializes in evaluating integrated medical communities and is unsurpassed in our experience working with communities that rely on levies for program support. We know that each program, community, and system require unique and thoughtful considerations that do not favor cookie-cutter solutions for obtaining superior, medically oriented, patient-centered outcomes. In this manner, TPF's sub-contractors are seasoned EMS professionals averaging over 20 years of experience in EMS.

Nick Nudell - Is a scholar-practitioner with greater than 24 years of data science, public policy, and paramedicine experience at the local, state, and national levels. His scholarship has focused primarily on innovative governance models and improving health system design to reduce systemic healthcare disparities through mixed methods research focusing on system design & implementation.

From the fields of Northcentral Montana to the streets of San Francisco, Nick has been fortunate to acquire unique technological and programmatic expertise from working as a hospital and ambulance-based clinician, educator, consultant, regulator, program manager, executive, and researcher. This experience provides a unique "boots on the ground" perspective and vision to improve diversity, equity, and inclusion in paramedicine for our communities, patients, and the healthcare industry.

Gary Wingrove grew up in rural Iowa (towns of populations 500 and 3,000) and joined the ambulance service while a junior in high school. After graduating, he moved to Minnesota and became an EMT and a paramedic. He worked in south Minneapolis at a paramedic service for ten years, a ground and air critical care service in St. Paul. He has spent the last 27 years working for a large, geographically diverse ground and air paramedic and critical care service. When Minnesota's legislature created the EMS Regulatory Board, the health commissioner asked him to be the state EMS director to make the board and transfer the staff and functions from the state health department to the new board. Gary is described by many as the

“grandfather” of community paramedicine. He has chaired the International Roundtable on Community Paramedicine since 2005 and has overseen the development of all four versions of the Community Paramedic curriculum. He assists several states in developing regulatory policies around community paramedicine and creating or improving community paramedic agencies.

Paul Anderson, MS, NRP, has invested his entire career in EMS, providing direct patient care and filling leadership roles. As a Chief Operating Officer, he provided vision and direction for a paramedic service responding to 82,000 calls per year in multiple states. He worked extensively with governmental entities with a focus on developing and sustaining initiatives that strengthen paramedic services. He has been involved in a variety of projects with The Paramedic Foundation.

Andrew Stephen is from Northern Nevada on the I-80 corridor, a county with a population of around 20,000. For the first ten years of his career, he worked for an innovative and progressive rural hospital-based EMS service that consisted of 911, CCT, CP, and all hazards rescues. He worked his way from an EMT to Paramedic, then to the Deputy Chief of EMS during his time there. After ten years of working in the system, he decided it was time to move on to a different service to see and learn about new EMS systems. Andrew currently works as an Operations Supervisor in Colorado. He is also the Executive Director of the American Paramedic Association. Andrew has a bachelor's degree in Management and Supervisor. He also has an associate degree in EMS-Paramedic Emphasis. Has his FP-C credential and a Managing Paramedic Officer (MPO) certification from the American College of Paramedic Executives.

Davis G. Patterson, Ph.D., is a sociologist with more than two decades experience conducting quantitative and qualitative research in health and human services, focusing on informing policy on improving patient access to healthcare. He is the Deputy Director of the WWAMI Rural Health Research Center, co-investigator in the Center for Health Workforce Studies, and a research assistant professor at the University of Washington, Seattle. Dr. Patterson has conducted numerous studies of prehospital EMS, including the rural component of the NHTSA-funded *EMS Workforce for the 21st Century: A National Assessment*, a CDC-funded study of EMS cardiac and stroke capabilities and practices, a HRSA-funded study of prehospital EMS personnel in rural areas, and a NHTSA-funded study, *Quality Review of Emergency Medical Service Performance Measure Data*.

APPENDIX 1: DEMOGRAPHIC QUESTIONS

Please help us learn a little bit more about you by answering a few more optional questions that are much more personal. It will be very helpful for the survey team to have these answers and please remember that no personally identifiable information will be shared.

What is your age?

- ☐ Under 18
- ☐ 18-29
- ☐ 30-39
- ☐ 40-49
- ☐ 50-59
- ☐ 60-69
- ☐ 70 or more
- ☐ I prefer not to answer

Do you think of yourself as (please check all that apply):

- ☐ Straight
- ☐ Gay or lesbian
- ☐ Bisexual
- ☐ Transgender, transsexual, or gender non-conforming
- ☐ I prefer not to answer

Gender: how do you identify?

- ☐ Woman (assigned at birth)
- ☐ Man (assigned at birth)
- ☐ Transgender or transsexual, male to female
- ☐ Transgender or transsexual, female to male
- ☐ Gender non-conforming
- ☐ Non-binary
- ☐ Prefer to self-describe: _____
- ☐ I prefer not to answer

What is your race? Select all that apply.

- ☐ American Indian or Alaska Native (e.g., Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.)
- ☐ Black (e.g., African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc)
- ☐ Chamorro
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Latin American
- ☐ Native Hawaiian

- ☐ Pacific Islander (e.g., Fijian, Tongan, Marshallese, etc)
- ☐ Samoan
- ☐ South Asian (e.g., East Indian, Pakistani, Sri Lankan, etc.)
- ☐ Southeast Asian (e.g., Vietnamese, Cambodian, Laotian, Thai, etc.)
- ☐ Vietnamese
- ☐ West Asian (e.g. Iranian, Afghan, etc.)
- ☐ White (e.g., German, Irish, Italian, English, Egyptian, Lebanese, etc)
- ☐ Some other race not listed above (please specify): _____
- ☐ I prefer not to answer

Do any of the following type(s) of disability apply to you. (Select all that apply):

- ☐ Communications
- ☐ Developmental
- ☐ Dexterity
- ☐ Flexibility
- ☐ Hearing
- ☐ Learning
- ☐ Memory
- ☐ Mental-health related
- ☐ Mobility
- ☐ Pain-related
- ☐ Seeing
- ☐ Disability not listed above (please specify): _____
- ☐ None of the above
- ☐ I prefer not to answer

What language(s) did you first learn at home in childhood and still understand? (Select all that apply)
(required)

- ☐ Arabic
- ☐ Chinese
- ☐ Dutch (including Afrikaans, Yiddish, Pennsylvania Dutch)
- ☐ English
- ☐ French
- ☐ German
- ☐ Hindi
- ☐ Sign-language
- ☐ Somali
- ☐ Spanish
- ☐ Russian
- ☐ Another language
- ☐ I prefer not to answer

Are you among the first generation in your family to attend college?

- ☐ Yes

☐ No

What is your marital status?

- ☐ Single, never married
- ☐ Married or domestic partnership
- ☐ Widowed
- ☐ Divorced
- ☐ Separated
- ☐ I prefer not to answer

Which of the following best describes your current housing situation? (Please select one):

- ☐ Homeowner
- ☐ Renter
- ☐ Living with others but not paying rent or mortgage
- ☐ Living with others and assisting with paying rent or mortgage
- ☐ Unhoused

APPENDIX 2: AGENCY ADMINISTRATOR SURVEY

RESEARCH QUESTION: What strategies have ambulance services successfully utilized to recruit and retain EMS providers?

What type of ambulance service do you manage? Select all that apply:

- ☐ Hospital ambulance department
- ☐ Law enforcement/corrections
- ☐ Third service (county, city, township, municipal)
- ☐ Federal or military ambulance department
- ☐ Fire department
- ☐ Private non-profit
- ☐ Private for-profit

Which degrees or certifications are required for initial hiring? Select all that apply

- ☐ EMR certification
- ☐ EMT certification
- ☐ Advanced EMT certification
- ☐ Paramedic certification
- ☐ Critical Care Paramedic certification
- ☐ Flight Paramedic certification
- ☐ Community Paramedic certification
- ☐ Volunteer Firefighter
- ☐ Firefighter I
- ☐ Firefighter II
- ☐ Interagency Wildfire
- ☐ Associate degree
- ☐ Bachelor degree
- ☐ Graduate degree

Which of the following are required for initial hiring? Select all that apply

- ☐ Less than 1 year field experience
- ☐ 1-3 years field experience
- ☐ Local resident
- ☐ Maximum commute distance (e.g., 25 miles max distance to agency)
- ☐ Background check
- ☐ Tox/drug screen
- ☐ Clinical evaluation
- ☐ Physical agility testing
- ☐ Psychological testing

What percentage of staff are full-time with your ambulance service?

- ☐ Less than or equal to 20%

- ☐ 21%-40%
- ☐ 41%-60%
- ☐ 61%-80%
- ☐ 81%-100%

What percentage of staff are unpaid with your ambulance service?

- ☐ None, all are paid
- ☐ Less than or equal to 20%
- ☐ 21%-40%
- ☐ 41%-60%
- ☐ 61%-80%
- ☐ 81%-100%

What is the typical hourly wage (not including benefits or OT) for an EMT with 1-5 years of experience in your ambulance service?

\$ _____.00__

What is the typical hourly wage (not including benefits or OT) for an Advanced EMT with 1-5 years of experience in your ambulance service?

\$ _____.00__

What is the typical hourly wage (not including benefits or OT) for a Paramedic with 1-5 years of experience in your ambulance service?

\$ _____.00__

How challenging is recruiting staff in your ambulance service?

- ☐ Extremely challenging
- ☐ Very challenging
- ☐ Somewhat challenging
- ☐ Slightly challenging
- ☐ Not too challenging
- ☐ Not sure

How challenging is retaining staff in your ambulance service?

- ☐ Extremely challenging
- ☐ Very challenging
- ☐ Somewhat challenging
- ☐ Slightly challenging
- ☐ Not too challenging
- ☐ Not sure

What is the longest amount of time that any clinical EMT, AEMT, or paramedic position for which your ambulance service was/is actively recruiting has been vacant during the past year?

Not applicable (no openings in the past year)

[time ranges – e.g., 1 month, 2 months, 3 months, 4 months, 5 months, 6 or more months]

Please provide one zip code for the main or primary location for your ambulance service.

Which of the following forms of compensation has your ambulance service provided to staff at any time in the past 3 years (e.g., 2019, 2020, 2021, and/or this year). Select all that apply:

- ☐ Sign-on bonus
- ☐ Relocation reimbursement
- ☐ Performance bonus
- ☐ Extra compensation for working a less desirable shift
- ☐ Paid time off
- ☐ Retention bonus
- ☐ Tuition reimbursement
- ☐ Recertification costs reimbursement
- ☐ Scholarships
- ☐ Conference support
- ☐ Uniform allowance

How effective are the following forms of compensation for staff recruitment or retention?

	Very effective	Somewhat effective	Not too effective	Not sure
Sign-on bonus				
Relocation reimbursement				
Performance bonus				
Extra compensation for working a less desirable shift				
Paid time off				
Retention bonus				
Tuition reimbursement				
Recertification costs reimbursement				
Scholarships				
Conference support				
Uniform allowance				

Which of the following benefits has your ambulance service provided to staff at any time in the past 3 years (e.g., 2019, 2020, 2021, and/or this year). Select all that apply:

- ☐ Health insurance
- ☐ Gym membership
- ☐ Life insurance
- ☐ Long-term disability coverage
- ☐ Short-term disability coverage
- ☐ Pension/OPERS

- ☐ 401k/403b/457b/IRA
- ☐ Social security payments
- ☐ Other retirement programs

How effective are the following benefits for staff recruitment or retention?

	Very effective	Somewhat effective	Not too effective	Not sure
Health insurance				
Gym membership				
Life insurance				
Long-term disability coverage				
Short-term disability coverage				
Pension/OPERS				
401k/403b/457b/IRA				
Social security payments				
Other retirement programs				

Which of the following scheduling and workload practices has your ambulance service used at any time in the past 3 years (e.g., 2019, 2020, 2021, and/or this year). Select all that apply:

- ☐ Flexible scheduling
- ☐ Maximum duty time policy
- ☐ 48-hour workweek or less
- ☐ At least three days off for full time employees
- ☐ Employer assisted scheduling of time-off coverage
- ☐ Minimum time off between shifts
- ☐ Fatigue management plan
- ☐ Peer support (mental health)
- ☐ Rotating crews between busy and slow assignments
- ☐ Scheduling additional staff shifts to cover known busy periods
- ☐ Staff support for extended drop-off/wait/boarding times
- ☐ Ensuring staff are not held over to cover uncovered shifts
- ☐ Short time requirement for ePCR completion at end of shift
- ☐ Minimum time for calling off of a shift before it is considered disciplinary
- ☐ Maximum number of dispatches per time/shift

How effective are the following scheduling and workload practices for staff recruitment or retention?

	Very effective	Somewhat effective	Not too effective	Not sure
Flexible scheduling				
Maximum duty time policy				
48-hour workweek or less				
At least three days off for full time employees				

Employer assisted scheduling of time-off coverage				
Minimum time off between shifts				
Fatigue management plan				
Peer support (mental health)				
Rotating crews between busy and slow assignments				
Scheduling additional staff shifts to cover known busy periods				
Staff support for extended drop-off/wait/boarding times				
Ensuring staff are not held over to cover uncovered shifts				
Short time requirement for ePCR completion at end of shift				
Minimum time for calling off of a shift before it is considered disciplinary				
Maximum number of dispatches per time/shift				

Which of the following supports or amenities has your ambulance service used at any time in the past 3 years (e.g., 2019, 2020, 2021, and/or this year). Select all that apply:

- ☐ Non-clinical staff washing or restocking ambulances
- ☐ Decontamination support following COVID or Hazmat transports
- ☐ Station-based response with amenities such as bedrooms, kitchen, dayroom, office space
- ☐ Three or more employees working at the same base with regular interpersonal interaction
- ☐ Crews preparing or obtaining and eating meals together
- ☐ Crews performing station chores together as a team (meal prep, janitorial, etc.)
- ☐ Offering additional assignments (e.g., TEMS, bike team, committees, community outreach, etc.)

How effective are the following supports or amenities for staff recruitment or retention?

	Very effective	Somewhat effective	Not too effective	Not sure
Non-clinical staff washing or restocking ambulances				
Decontamination support following COVID or Hazmat transports				
Station-based response with amenities such as bedrooms, kitchen, dayroom, office space				
Three or more employees working at the same base with regular interpersonal interaction				

Crews preparing or obtaining and eating meals together				
Crews performing station chores together as a team (meal prep, janitorial, etc.)				
Offering additional assignments (e.g., TEMS, bike team, search & rescue, car seat installer, committees, community outreach, etc.)				

Are there other forms of compensation, benefits, incentives, amenities, or scheduling/workload practices your ambulance service has provided to staff at any time in the past 3 years (e.g., 2019, 2020, 2021, and/or this year). Please describe: [open-ended]

What impact have the following items had on your ambulance service's ability to recruit or retain staff in the past 3 years (e.g., 2019, 2020, 2021, and/or this year)?

	Very negative impact	Moderately negative impact	Neither negative nor positive impact	Moderately positive impact	Very positive impact
Continuing education requirements					
Provider mental health needs					
Violence against providers					
Injury or illness					
Community characteristics (e.g., amenities, affordability, culture, schools, etc.)					
Family or personal needs of employees (e.g., spouse's career, childcare, children's schooling, etc.)					

Are there other policies or practices not covered previously that might have affected staff recruitment or retention in the past 3 years (e.g., 2019, 2020, 2021, and/or this year)? Please describe: [open-ended]

How has the COVID-19 pandemic affected your ambulance service's recruitment and/or retention strategies, if at all? [open-ended]

What have been your ambulance service's top three most successful recruitment and/or retention strategies in the past 3 years (e.g., 2019, 2020, 2021, and/or this year)? [open-ended]

APPENDIX 3: PARAMEDIC STUDENT SURVEY

RESEARCH QUESTION: What attitudes and considerations are prevalent in paramedic students that OH state officials or ambulance services may find useful for recruiting?

Which degrees or certifications do you currently hold? Select all that apply

- ☐ None
- ☐ EMR certification
- ☐ EMT certification
- ☐ Advanced EMT certification
- ☐ Paramedic certification
- ☐ Critical Care Paramedic certification
- ☐ Flight Paramedic certification
- ☐ Community Paramedic certification
- ☐ Volunteer Firefighter
- ☐ Firefighter I
- ☐ Firefighter II
- ☐ Interagency Wildfire
- ☐ Associate degree
- ☐ Bachelor degree
- ☐ Graduate degree
- ☐ Physician assistant
- ☐ Nurse
- ☐ Physician
- ☐ Other health profession (specify): _____
- ☐ Other non-health profession (specify): _____

Which degrees or certifications are you currently enrolled or in the process of obtaining? Select all that apply

- ☐ None
- ☐ EMR certification
- ☐ EMT certification
- ☐ Advanced EMT certification
- ☐ Paramedic certification
- ☐ Critical Care Paramedic certification
- ☐ Flight Paramedic certification
- ☐ Community Paramedic certification
- ☐ Volunteer Firefighter
- ☐ Firefighter I
- ☐ Firefighter II
- ☐ Interagency Wildfire
- ☐ Associate degree
- ☐ Bachelor degree

- ☐ Graduate degree
☐ Doctoral degree
☐ Physician Assistant
☐ Nurse
☐ Physician
☐ Other health profession (specify): _____
☐ Other non-health profession (specify): _____

How much prior ambulance service experience do you have?

- ☐ None
☐ Less than 1 year
☐ 1-5 years
☐ 6-10 years
☐ More than 10 years

How stressful for you is providing care for patients experiencing the following types of emergencies?

	Very stressful	Somewhat stressful	Not very stressful	Unsure	Not applicable (have not experienced this)
Disasters					
Accidents					
Domestic violence					
Sexual assault					
Other types of crime					
Burns					
Massive traumatic injury					
Death of a child					
Your own friend or family member needing care					
Caring for patients with or suspected to have COVID-19					

To what extent has the COVID-19 pandemic caused you to re-evaluate your future career plans?

What is a realistic hourly wage that you would find acceptable for full-time employment after graduation with 1-5 years of experience (not including overtime, extra pay incentives, benefits, etc.)?

\$____.00__

Have any Ohio ambulance services contacted you in a recruiting effort? Yes/No

[IF YES]

What aspects of the Ohio ambulance service(s) recruitment effort did you find appealing?
[open-ended]

What aspects of the Ohio ambulance service(s) recruitment did you NOT find appealing? [open-ended]

Have any non-Ohio ambulance services contacted you in a recruiting effort? Yes/No
[IF YES]

What aspects of the non-Ohio ambulance service(s) recruitment effort did you find appealing?
[open-ended]

What aspects of the non-Ohio ambulance service(s) recruitment did you NOT find appealing?
[open-ended]

How important are the following aspects of the community where the ambulance service is located to you in deciding to work there? [Insert grid with Very, somewhat, not too important, don't know/not sure]

- ☐ Cost of living
- ☐ Quality of schools for children
- ☐ Cultural amenities
- ☐ Diversity in the community members
- ☐ Recreational opportunities
- ☐ Commute time
- ☐ Crime rates/safety
- ☐ Small town or a more rural lifestyle
- ☐ Big city or a more urban lifestyle
- ☐ Hospital/health system reputation (not the employer)
- ☐ Proximity to higher education
- ☐ Proximity to spouse work/school
- ☐ Proximity to co-parent
- ☐ Nightlife
- ☐ Proximity to major travel routes (airport, interstate, etc)
- ☐ Proximity to extended family & friends
- ☐ Other: _____
- ☐ Other: _____

How important to you are the following offerings in selecting an employer?

	Effectiveness for recruiting			
	Very important	Somewhat important	Not too important	Not sure
Sign-on bonus				
Relocation reimbursement				
Extra compensation for working a less desirable shift				
Paid time off				
Retention bonus				

Tuition reimbursement				
Recertification costs reimbursement				
Scholarships				
Conference support				
Uniform allowance				
Health insurance				
Gym membership				
Life insurance				
Long-term disability coverage				
Short-term disability coverage				
Pension/OPERS				
401k/403b/457b/IRA				
Social security payments				
Other retirement programs				

Will/are you seeking full-time or part-time employment with an ambulance service?

- ☐ Full-time
☐ Part-time
☐ Either full- or part-time
☐ Unsure

If not, why not: _____

With which types of employers will/are you seeking employment? Select all that apply:

- ☐ Hospital ambulance department
☐ Law enforcement/corrections
☐ Third service (county, city, township, municipal)
☐ Federal or military ambulance department
☐ Fire department
☐ Private non-profit
☐ Private for-profit
☐ Hospital in a non-ambulance position
☐ Government service in a non-ambulance position
☐ Public health agency
☐ Research institution
☐ Higher education in a staff or faculty role
☐ Military in a non-ambulance position
☐ Plan to continue education and not enter workforce in the near term
☐ Other, specify: _____
☐ Unsure
☐ None of the above

What job type are/will you seek employment upon graduation? Select all that apply:

- ☐EMR (ambulance)
- ☐EMR (hospital/clinic)
- ☐EMR (other)
- ☐EMT (ambulance)
- ☐EMT (hospital/clinic)
- ☐EMT (other)
- ☐Advanced EMT (ambulance)
- ☐Advanced EMT (hospital/clinic)
- ☐Advanced EMT (other)
- ☐Paramedic (ground ambulance 911)
- ☐Paramedic (ground ambulance critical care)
- ☐Paramedic (rotor/fixed wing ambulance)
- ☐Paramedic (community paramedic)
- ☐Paramedic (hospital/clinic)
- ☐Paramedic (other)
- ☐Firefighter (EMR)
- ☐Firefighter (EMT)
- ☐Firefighter (Nurse)
- ☐Firefighter (Paramedic)
- ☐Firefighter (Educator)
- ☐Firefighter (Leadership)
- ☐Physician Assistant
- ☐Nurse (ground ambulance 911)
- ☐Nurse (ground ambulance critical care)
- ☐Nurse (rotor/fixed wing ambulance)
- ☐Nurse (community paramedic)
- ☐Nurse (hospital/clinic)
- ☐Nurse (other)
- ☐Educator (ambulance)
- ☐Educator (fire department)
- ☐Educator (hospital/clinic)
- ☐Educator (other)
- ☐Leadership (ambulance)
- ☐Leadership (fire department)
- ☐Leadership (hospital/clinic)
- ☐Leadership (other)
- ☐Physician (agency affiliated)
- ☐Physician (EMS medical director)
- ☐Military
- ☐Other: _____
- ☐None of the above

Please indicate if the following practices would cause you to think favorably about a potential future ambulance service employer?

- ☐ Flexible scheduling
- ☐ Maximum duty time policy
- ☐ 48-hour workweek or less
- ☐ At least three days off for full time employees
- ☐ Employer assisted scheduling of time-off coverage
- ☐ Minimum time off between shifts
- ☐ Fatigue management plan
- ☐ Peer support (mental health)
- ☐ Rotating crews between busy and slow assignments
- ☐ Scheduling additional staff shifts to cover known busy periods
- ☐ Staff support for extended drop-off/wait/boarding times
- ☐ Ensuring staff are not held over to cover uncovered shifts
- ☐ Short time requirement for ePCR completion at end of shift
- ☐ Minimum time for calling off of a shift before it is considered disciplinary
- ☐ Maximum number of dispatches per time/shift
- ☐ Other: _____

What are the three most important factors for you in choosing an Ohio ambulance service employer?
[open-ended]

- ☐ Non-clinical staff washing or restocking ambulances
- ☐ Decontamination support following COVID or Hazmat transports
- ☐ Station-based response with amenities such as bedrooms, kitchen, dayroom, office space
- ☐ Having the same (three or more) employees working at the same base with regular interpersonal interaction
- ☐ Crews preparing or obtaining and eating meals together
- ☐ Crews performing station chores together as a team (meal prep, janitorial, etc.)
- ☐ Offering additional assignments (e.g., TEMS, bike team, committees, community outreach, etc.)

Please provide the top three things that would cause you to reject employment by an Ohio ambulance service? [open-ended]

APPENDIX 4: UNAFFILIATED PROVIDER SURVEY

RESEARCH QUESTION: What factors prevent trained and certified EMS providers from entering the workforce as Ohio ambulance-based clinicians or affiliating with an ambulance service?

Are you currently working in Ohio as an EMT, AEMT, or paramedic? Yes/No
[If YES Skip to END]

A. [IF NO]

What is the primary reason you are not currently working in Ohio as an EMT, AEMT, or paramedic?

1. I'm currently seeking employment in Ohio as an EMT, AEMT, or paramedic **[SKIP TO B]**
2. I'm working in another state as an EMT, AEMT, or paramedic. **[SKIP TO END]**
3. I'm working in another state in some other type of job. **[SKIP TO L]**
4. I'm working in Ohio in another health care job (not EMT, AEMT, or paramedic) **[SKIP TO L]**
5. I'm working in Ohio in a field outside of health care **[SKIP TO L]**
6. I'm retired **[SKIP TO END]**
7. I'm no longer working due to disability **[SKIP TO END]**
8. I'm temporarily unemployed **[SKIP TO B]**
9. Some other reason (please specify): _____ **[SKIP TO END]**

B. Will/are you seeking full-time or part-time employment with an Ohio ambulance service?

- ☐ Full-time
- ☐ Part-time
- ☐ Either full- or part-time
- ☐ Not seeking OH employment but am outside of OH
- ☐ Unsure
- ☐ If not, why not: _____

Then

C. With what types of employers will/are you seeking employment as an EMT, AEMT, or paramedic? Select all that apply:

- ☐ Hospital ambulance department
- ☐ Law enforcement/corrections
- ☐ Third service (county, city, township, municipal)
- ☐ Federal or military ambulance department
- ☐ Fire department
- ☐ Private non-profit
- ☐ Private for-profit
- ☐ Hospital in a non-ambulance position
- ☐ Government service in a non-ambulance position
- ☐ Public health agency
- ☐ Research institution

- ☐ Higher education in a staff or faculty role
- ☐ Military in a non-ambulance position
- ☐ Plan to continue education and not enter workforce in the near term
- ☐ Other, specify: _____
- ☐ Unsure
- ☐ None of the above

Then

D. What job type are/will you seek employment? Select all that apply:

- ☐ EMR (ambulance)
- ☐ EMR (hospital/clinic)
- ☐ EMR (other)
- ☐ EMT (ambulance)
- ☐ EMT (hospital/clinic)
- ☐ EMT (other)
- ☐ Advanced EMT (ambulance)
- ☐ Advanced EMT (hospital/clinic)
- ☐ Advanced EMT (other)
- ☐ Paramedic (ground ambulance 911)
- ☐ Paramedic (ground ambulance critical care)
- ☐ Paramedic (rotor/fixed wing ambulance)
- ☐ Paramedic (community paramedic)
- ☐ Paramedic (hospital/clinic)
- ☐ Paramedic (other)
- ☐ Firefighter (EMR)
- ☐ Firefighter (EMT)
- ☐ Firefighter (Nurse)
- ☐ Firefighter (Paramedic)
- ☐ Firefighter (Educator)
- ☐ Firefighter (Leadership)
- ☐ Physician Assistant
- ☐ Nurse (ground ambulance 911)
- ☐ Nurse (ground ambulance critical care)
- ☐ Nurse (rotor/fixed wing ambulance)
- ☐ Nurse (community paramedic)
- ☐ Nurse (hospital/clinic)
- ☐ Nurse (other)
- ☐ Educator (ambulance)
- ☐ Educator (fire department)
- ☐ Educator (hospital/clinic)
- ☐ Educator (other)
- ☐ Leadership (ambulance)

- ☐Leadership (fire department)
- ☐Leadership (hospital/clinic)
- ☐Leadership (other)
- ☐Physician (agency affiliated)
- ☐Physician (EMS medical director)
- ☐Military
- ☐Other: _____
- ☐None of the above

Then

- E. Which degrees or certifications are you currently enrolled or in the process of obtaining? Select all that apply:

- ☐None
- ☐EMR certification
- ☐EMT certification
- ☐Advanced EMT certification
- ☐Paramedic certification
- ☐Critical Care Paramedic certification
- ☐Flight Paramedic certification
- ☐Community Paramedic certification
- ☐Volunteer Firefighter
- ☐Firefighter I
- ☐Firefighter II
- ☐Interagency Wildfire
- ☐Associate degree
- ☐Bachelor degree
- ☐Graduate degree
- ☐Doctoral degree
- ☐Physician Assistant
- ☐Nurse
- ☐Physician
- ☐Other health profession (specify): _____
- ☐Other non-health profession (specify): _____

Then

- F. Which degrees or certifications have you already achieved? Select all that apply

- ☐None
- ☐EMR certification
- ☐EMT certification
- ☐Advanced EMT certification
- ☐Paramedic certification
- ☐Critical Care Paramedic certification
- ☐Flight Paramedic certification

- ☐Community Paramedic certification
- ☐Volunteer Firefighter
- ☐Firefighter I
- ☐Firefighter II
- ☐Interagency Wildfire
- ☐Associate degree
- ☐Bachelor degree
- ☐Graduate degree
- ☐Doctoral degree
- ☐Physician Assistant
- ☐Nurse
- ☐Physician
- ☐Other health profession (specify): _____
- ☐Other non-health profession (specify): _____

Then

- G. How much prior ambulance service experience do you have?

- ☐None
- ☐Less than 1 year
- ☐1-5 years
- ☐6-10 years
- ☐More than 10 years

Then

- H. What is your level of interest in working for an Ohio ambulance service within the next two years?

- ☐Very interested
- ☐Somewhat interested
- ☐Not at all interested
- ☐Unsure

Then

- I. Have any Ohio ambulance services contacted you in a recruiting effort? **[IF YES, GO TO J & K, if NO go to L]**
- J. What aspects of the Ohio ambulance services recruitment effort did you find appealing?
- K. What aspects of the Ohio ambulance services recruitment did you NOT find appealing?

Then

- L. To what extent have the following factors contributed to your not working for an Ohio ambulance service?

	A great deal	Somewhat	Not too much	Not sure
Stress or anxiety				
Poor compensation				
Poor or no benefits				

Then

M. To what extent has the COVID-19 pandemic caused you stress or anxiety?

A great deal	Somewhat	Not too much	Not sure
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Then

N. To what extent has the COVID-19 pandemic caused you to re-evaluate your future career plans?

A great deal	Somewhat	Not too much	Not sure
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Then

O. How important is each of the following aspects of the community where the ambulance service is located to you in deciding to work there?

	Very important	Somewhat important	Not too important	Not sure
Desirability				
Cost of living				
Children educational system				
Cultural experiences				
Commute time				
Crime rates/safety				
Hospital/health system reputation (not the employer)				
Proximity to higher education				
Proximity to spouse work/school				
Proximity to co-parent				
Nightlife				
Proximity to major travel routes (airport, interstate, etc)				
Proximity to extended family & friends				
Other: _____				
Other: _____				

Then

P. How important a role does each of the following play in your not working as an EMT, AEMT, or paramedic?"

	Very important	Somewhat important	Not too important	Not sure
Compensation				
Having sufficient paid time off				

Offering robust health insurance benefits				
Offering robust retirement benefits				
Predictable or convenient schedules				
Potential mental health impacts				
Potential physical health impacts				
Insert other factors: _____				

Then

Q. Please indicate if the following practices would cause you to think favorably about a potential future ambulance service employer?

- ☐ Flexible scheduling
- ☐ Maximum duty time policy
- ☐ 48-hour workweek or less
- ☐ At least three days off for full time employees
- ☐ Employer assisted scheduling of time-off coverage
- ☐ Minimum time off between shifts
- ☐ Fatigue management plan
- ☐ Peer support (mental health)
- ☐ Rotating crews between busy and slow assignments
- ☐ Scheduling additional staff shifts to cover known busy periods
- ☐ Staff support for extended drop-off/wait/boarding times
- ☐ Ensuring staff are not held over to cover uncovered shifts
- ☐ Short time requirement for ePCR completion at end of shift
- ☐ Minimum time for calling off of a shift before it is considered disciplinary
- ☐ Maximum number of dispatches per time/shift
- ☐ Other: _____

Then

R. What are the three most important factors for you in choosing an ambulance service employer?
[open-ended]

Then

S. Please identify three things that could interest you in seeking employment with an Ohio ambulance service within the next six months?

