

**AUGUST  
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**ASSESSMENT  
OF  
EMERGENCY MEDICAL SERVICES  
IN THE  
STATE OF ALASKA**

**SAFETECH SOLUTIONS, LLP**

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# EXECUTIVE SUMMARY

Emergency Medical Services (EMS) in Alaska is at a threshold. For approximately fifty years, the state EMS system has adapted and grown to meet local needs for urgent out-of-hospital medical care. In 2021, EMS across the state is ready and ripe for a new stage of development and growth. The Alaska statewide assessment provides a valuable opportunity to study the condition of the state's EMS system, evaluate its future, and envision a path to change.

Over 100 identified out-of-hospital emergency medical services in seven regions provide a wide range of response, clinical care, and transportation to residents of the state of Alaska and its visitors. Alaska poses unique challenges for emergency medical services, including its vast transport distances, extreme geography and climate, limited road system, and sparse population. Moreover, assessing EMS in Alaska requires understanding the state's unique historical and socio-cultural context. The development of the Indian Health Service-funded Community Health Aide Program in rural parts of the state, for example, plays an important role in emergency medical services not found in the so-called "lower 48" states. EMS in Alaska, therefore, involves a variety of agencies, governing bodies, cultures, and groups that must be understood as they interact together.

In general, the regional EMS system in Alaska is successful in response, education, clinical care, and transportation of patients in a challenging environment. That said, the provision of EMS varies significantly across the state. Areas identified as urban are appropriately resourced, have adequate capacity, and are sustainable, while areas identified as rural or frontier, including EMS in Alaska Native villages, face looming challenges associated with access to care; limited capacity; workforce and funding scarcity; burnout; and a paucity of leadership, coordination, and vision.

In addition to the above, the findings from Phase I of the statewide Alaska study include the following major observations, which highlight successes, valuable opportunities, and challenges ahead:

### Observations

- 1 Alaska EMS is viewed as functional.
- 2 The strength of Alaska EMS is its adaptability.
- 3 Alaska EMS faces significant challenges.
- 4 Alaska EMS faces big opportunities.
- 5 Alaska EMS lacks clarity of leadership, vision, and coordination.
- 6 Basic data about Alaska EMS is absent.
- 7 Regulatory statutes and codes are outdated.
- 8 Basic system planning is lacking.
- 9 EMS in rural and frontier Alaska is fragile.
- 10 Local communities/services lack resources for change.
- 11 The value of enthused rural leaders is hard to overstate.
- 12 The challenging EMS role of CHA/Ps needs more study.
- 13 Needs related to EMS provider psychological wellbeing are unmet.
- 14 Air medical operations are highly competitive and lack coordination.
- 15 EMS is the default supplier of non-emergent medical transportation.

## Recommendations

- 1 Cultivate ongoing curiosity and inquiry about the vital elements of Alaska EMS.
- 2 Engage in a comprehensive visioning process.
- 3 Create the necessary structure and leadership to support the vision.
- 4 Commence a statewide EMS system planning process.
- 5 Prepare and equip the State EMS Regions to be Regional Tactical Assistance Centers.
- 6 Foster more collaboration among Alaska's air medical services.
- 7 Commission a study of CHA/Ps' EMS role.
- 8 Invest in ongoing leadership development at all levels.
- 9 Establish regular statewide EMS workforce planning.
- 10 Invest in provider wellbeing, mental health, and resilience.

## INTRODUCTION

The provision of emergency medical response, treatment, and medical transportation in the state of Alaska has a fascinating history reflective of the region's unique climate, geography, and socio-cultural context. For more than five decades, these services have been provided largely by volunteers with organized training, many of whom formed volunteer ambulance agencies and a variety of first response organizations using many different transportation methods. In addition, EMS in Alaska has been shaped by Alaska Tribal healthcare and the Community Health Aide Program in Alaska's rural villages.

Throughout the United States reliable EMS has become an expectation. Citizens have increasingly come to view EMS as an essential service, similar to law enforcement and public works. People have come to expect reliable access to emergency medical care that will come to them when they are at home, at work, shopping, recreating, or traveling. This is the case even as governments often fail to fund and support EMS as an essential service.

The last decade has seen significant changes and challenges to the provision of EMS in the United States. These challenges are particularly acute for rural and frontier EMS organizations. Numerous reports by researchers and the media have chronicled the decline of rural EMS volunteerism, EMS workforce challenges, funding shortfalls, the closing of services, and increasing demands for higher quality and accountability for services that remain.

EMS in Alaska is no exception. As the Alaska State Office of EMS looks to the future,<sup>1</sup> it seeks to ensure that the provision of emergency medical services in the state is strong. A strong EMS system means Alaska residents and visitors have access to emergency medical care no matter where they are in the state, and that they are served by a system that is reliable, sustainable, and that has adequate capacity. A strong EMS system also means that users experience more equity in opportunities for health, wellness, and safety. To this end, the Office of EMS is conducting a multi-phased project. Phase I of this project constitutes an opportunity to lay the foundation, through a statewide study of EMS in Alaska, for understanding the system and moving it forward. The Office has contracted with SafeTech Solutions, LLP, to conduct the study.

SafeTech Solutions is a national EMS consulting firm with extensive experience working with and researching EMS. Over the past 15 years SafeTech has worked with numerous governments, EMS system agencies, and leaders and has been deeply involved in EMS at the local, state, and national levels. SafeTech specializes in the study and improvement of emergency medical services in rural, remote, and frontier regions.

## STUDY GOALS, DESCRIPTIONS, APPROACH, & METHODOLOGY

This report is designed to help Alaska leaders, residents, researchers, and policy makers gain a fresh look at EMS in Alaska. We hope to bring needed perspective to statewide EMS planning, development, and resource allocation and to highlight areas for further inquiry and study. The report provides a description of the current state of EMS in Alaska along with key observations and recommendations.

The report is based on SafeTech Solutions' months-long study of EMS in Alaska, which was begun in 2019, paused during the COVID-19 pandemic, and resumed in early 2021. Goals of the statewide study were to:

- Describe EMS in Alaska, including where and how emergency medical care is delivered, what the clinical issues are, and what disparities may exist;
- Assess EMS in Alaska in a way that is both objective and attentive to the state's unique characteristics, challenges, strengths, and limitations;
- Deepen understanding of EMS in Alaska, with a focus on capacity, reliability, long-term sustainability, and quality of the services provided; and

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[1] This study is commissioned by the Alaska State Office of EMS, which resides under the Department of Health and Social Services, Division of Public Health, Section of Rural and Community Health Systems.

## Make recommendations for future planning and ongoing development.

The scope of the study was limited in several ways. Full or complete information was not always available, and participation in the study was voluntary. Some agencies, communities, and key stakeholders did not participate. The study was interrupted by the COVID-19 pandemic and was affected by the pressures and unusual circumstances surrounding it, including the difficulty of travel within and to Alaska.

A significant limitation derives from the nature and availability of data for the study. Quantitative data was limited and suffers from reporting obstacles, inconsistencies, and reliability issues. Available data was largely qualitative and difficult to validate. That said, participants shared information and perspectives candidly, and as described below, the study enjoyed deep and widespread participation.

SafeTech imposes no template or formula for the assessment. Our position is that EMS systems are unique, specific, dynamic, and contingent upon local histories and conditions.

Both qualitative and quantitative data are used in this report. Survey data from 68 Alaska State-certified EMS agencies and 53 uncertified emergency response groups illustrate the structure, staffing, and clinical level of services active in the state and offer a glimpse of top challenges facing these agencies. Qualitative data helps flesh this picture out. We conducted approximately 100 interviews with individuals across Alaska, including past and present members of the Alaska Council on EMS (ACEMS), State EMS Region directors, medical directors, EMTs, paramedics, first responders, local residents, fire department chiefs, hospital representatives, educators, Community Health Aides/Practitioners (CHA/Ps), flight teams, Alaska Native Village First Chiefs, Native Corporation administrators, other researchers, academics, and political and governmental leaders.

Historical material such as planning documents, assessments, newsletters, training materials, and reports, as well as scholarly literature, further inform the study. All data is analyzed using standard quantitative and qualitative methodology looking for themes, trends, and key issues. These are organized and presented throughout the report, and they guide our major observations and recommendations.

This report illustrates SafeTech's distinctive, holistic approach to the study and assessment of emergency medical services. Our approach aims to understand the unique development of EMS in Alaska, recognizing that questions regarding the provision, quality, equity, and sustainability of EMS intersect with many fields of study, including medicine, healthcare, improvement science, economics, sociology, and psychology.

SafeTech imposes no template or formula for the assessment. Our position is that EMS systems are unique, specific, dynamic, and contingent upon local histories and conditions. Criteria such as the "14 EMS Attributes" of the National Highway Traffic Safety Administration (NHTSA) are helpful in comparing similar EMS systems, but a true understanding moves beyond these to grasp the unique context of the system at hand. In Alaska, this means measuring and assessing Alaska against Alaska.

# EMS IN ALASKA

Emergency medical services in Alaska are provided across distances and in conditions unlike anywhere else in the country. They are provided by a fluctuating array of individuals, groups, and organizations that defy neat or simple categorization. While Alaska's EMS system in many ways conforms to and is comprised of the same basic components as are typically found in EMS in the lower 48, it also adapts these and innovates. To fully understand EMS in Alaska it is necessary to provide some context.

## The Development of EMS Nationally

EMS in the United States conventionally means the provision of urgent medical care outside the hospital or structured healthcare environment, involving the following basic components: preparation, education and training; access and emergency call-taking; the dispatch of resources; response, assessment, and appropriate treatment; transportation to an appropriate destination; receiving medical facilities; the movement of patients between medical facilities; medical oversight, data collection, and the assurance of clinical quality; and regulatory mechanisms to ensure safety and that all is done in the interest of protecting the public and enhancing quality of life.

Modern EMS in the United States evolved over the past 50 years as concerned citizens recognized the need, saw an opportunity, and found needed resources. These services, like local fire services, schools, and public works, were created out of a desire to improve local quality of life, meet local needs for emergency medical response and transportation, and preserve local self-sufficiency.

The need for greater access in rural areas to emergency medical care and transportation became apparent nationally in the mid-1960s. Increasing rates of highway traffic deaths and injuries resulted in a paper by the President's Commission on Highway Safety and the National Academies of Sciences detailing the epidemic of trauma and the absence of appropriate emergency care and systems to treat and transport patients. The paper's recommendations led to passage of the National Highway Safety Act of 1966 that established the Department of Transportation and the National Highway Traffic Safety Administration (NHTSA). NHTSA helped to standardize education and promote the development of the trauma center system. The 1973 EMS Systems Act saw the creation and funding of more than 300 EMS systems across the country to respond to rural highway traffic accidents, improve out-of-hospital cardiac care, and provide access to emergency medical care and transportation.

In the early 1980s, however, federal budget cuts eliminated or severely reduced federal funding for EMS. States and local communities were left to develop EMS systems on their own. Often without a requirement or mandate that counties or communities provide EMS or ambulance services, these evolved organically in an informal patchwork across the country, comprised largely of volunteer organizations. EMS developed as local people recognized a need, learned about modern EMS, and came together to gather resources.

This local and organic development characterizes much of EMS in the contiguous United States. Its history is a manifestation of community initiative and a deep sense of pride and duty to place and home. In the absence of significant funding to sustainably operate these services, they became possible largely through donated labor (volunteerism) and the gathering of local, state, federal, and philanthropic funds for vehicles, equipment, supplies, facilities, and other expenses.

Today, these informal networks of services have begun to show signs of strain. Volunteerism has declined as the demand for services has risen. Many locations lack the resources of visionary leadership and planning to see the way forward. Volunteerism has hidden the full and real costs of local EMS, and communities are unprepared to view and fund EMS as an essential service. Many services face an uncertain future as they grapple with an ever-changing healthcare environment; increasing expenses, expectations, and regulations; decreasing reimbursements; more sophisticated technology; and dwindling funding sources.

## The Development of EMS in Alaska

EMS in the state of Alaska has developed in similar ways, and today faces some of the same challenges described above. As in the lower 48, EMS in Alaska has developed organically with little or no centralized planning or funding. Volunteerism and community initiative have likewise been essential to the formation and functioning of many services across the state, and today, workforce issues related to the decline of volunteerism and a shortage of paid workers are a challenge for Alaska as for the rest of the country.

The Alaskan context is also unique. The region's distinctive climate, geography, and history have shaped EMS in Alaska in ways that are different from how EMS in the contiguous United States has developed. Early EMS training in Alaska, for example, was spurred not by rising highway traffic deaths, but by the need to provide basic emergency response and first aid know-how to individuals working in high-risk industries such as logging, mining, and fishing.

The impact of Alaska's climate and geography on statewide planning and services is hard to overstate. Emergency medical services in Alaska contend with vast distances; limited roads and infrastructure; long, cold winters; and sparse populations. To further complicate things, some of Alaska's most isolated and inaccessible communities belong to Alaska Native populations, located in remote villages scattered throughout the state. The delivery of healthcare and other services to Native villages, as will be discussed below, presents unique challenges as well as new opportunities.

The geographic region that is now known as Alaska has been home to human populations for over 10,000 years. Indigenous peoples such as the Tlingit, Haida, and Tsimshian in the southeast; the Athabaskan in the interior; the Inupiaqs and Yupiks along the north coast and southwest; and the Aleuts on the Aleutian Islands all lived in parts of Alaska long before the arrival of non-Native people. For thousands of years, indigenous peoples flourished by using local knowledge and resources from the land and sea to ensure their communities' health and survival in an extreme environment.

Russian colonization of Alaska began in the 18th century as Russian fur traders established settlements and outposts to exploit the region's abundant seal, otter, and fox populations. By the mid-1800s, however, the sea otter population was decimated, and Russian profits were dwindling. In 1867, the United States purchased Alaska from Russia for the price of \$7.2 million. "Seward's Icebox," as it was nicknamed then, was in fact far from the frozen wasteland its detractors envisioned. Rather, it was the site of a continuous and active circulation of people, goods, and resources for millennia.<sup>2</sup>

The United States administered Alaska first as a military district, and then as a territory. Gold rushes beginning in the 1890s saw waves of miners and settlers come to Alaska in spurts, though population growth in the region was otherwise slow until after World War II. In the run-up to Alaskan statehood in the first half of the 20th century, questions of Alaska Native aboriginal rights to land and to hunt and fish were debated but ultimately deferred to a later date. Alaska became the 49th state of the republic in 1959.<sup>3</sup>

Organized EMS in Alaska traces its history to approximately a decade following statehood. The first Emergency Medical Technician (EMT) training program was taught at the Public Safety Academy in Sitka in 1969. The Emergency Trauma Technician (ETT) course was developed shortly after, in 1973, by the Department of Public Safety to provide workers in Alaska's logging industry with basic first aid and emergency medical skills.<sup>4</sup>

The Department of Public Safety took an active role in training ambulance service personnel through the 1970s and early 1980s as the State of Alaska pursued funding and began establishing its initial EMS program. Federal funds for a State EMS Office were allocated in 1975, and the mid- to late-1970s also saw the formation of Alaska's non-profit Regional EMS Councils.

In 1977, the Alaska Legislature designated the Department of Health and Social Services (DHSS) as responsible for the development and oversight of EMS systems. In addition, the Alaska Council on EMS (ACEMS) appointed by the Governor was established to provide advice and recommendations to the Governor and Commissioner of Health and Social Services on issues pertaining to EMS. More on the current structure and governance of EMS in Alaska is found in the section titled "The Structure and Regulation of EMS" below.

## Overview of EMS in Alaska Today

Today the out-of-hospital emergency medical response and medical transportation needs of Alaskans are met by a diverse collection of EMS resources, providers, call centers, responder organizations, transport entities, EMS educators, healthcare facilities, regulators, and funders. This collection is not a system in the traditional sense of the word, meaning that its components cannot be understood collectively as "a coordinated and seamless system of emergency medical care."<sup>5</sup> Alaska EMS lacks broad planning and coordination, and access to and quality of services vary greatly statewide. That

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[2] Iggiagruk Hensley, W.L. (2017, March). There are two versions of the story of how the U.S. purchased Alaska from Russia. *Smithsonian Magazine*. <https://www.smithsonianmag.com/history/why-russia-gave-alaska-americas-gateway-arctic-180962714/>.

[3] Alaska Historical Society. (ND). *Discover Alaska's History: FAQs*. <https://alaskahistoricalsociety.org/discover-alaska/faqs/>.

[4] State of Alaska Department of Health and Social Services, Division of Public Health, Office of Emergency Medical Services. (2018). *Guide for EMS Education Certification and Licensure in Alaska*.

[5] National Highway Traffic Safety Administration, Office of Emergency Medical Services. (2021). *What is EMS?* NHTSA.gov. <https://www.ems.gov/whatisems.html>.

said, according to numerous informants for this study, Alaska’s diverse collection gets the job done. It effectively responds to requests for help, assesses and treats patients, and despite incredible challenges, delivers patients to definitive care centers.

EMS response and transportation in Alaska are provided by approximately 68 State-certified, and over 50 identified non-certified, agencies or organizations in seven State EMS Regions (See Table 1). In 2019 the State Office of EMS reports these services provided 72,158 responses. The lack of roads and the vast distances involved limit ground-based long-distance medical transportation, which is largely provided by 8-10 air medical services and the occasional use of water-based transportation.

Call-taking, dispatch, and communication in Alaska EMS do not follow the traditional model. Limitations in telephone access, radio communications, and cell phone coverage mean that communication resources and practices vary. In urban areas and along highways people call for help via public enhanced 9-1-1 telephone systems and contact with 45 Public Safety Answering Points (PSAPs) that dispatch resources via the public land mobile radio system. In rural, remote, and frontier areas, however, people may call for help in a variety of ways, including physically running for help or waving down a vehicle or aircraft; citizen band radios; private land mobile radios; maritime or

Table 1: AK State-Certified EMS Agencies by Region

Region	State-certified services
Interior Region	16
North Slope	1
Northwest Arctic	1
Norton Sound	3
Southeast Region	16
Southern Region	30
Yukon-Kuskokwim	1

marine radio systems; satellite telephone; or physically going to or calling one of the approximately 170 rural health clinics operated by Tribal Health Organizations across the state.

This study had contact with well over 100 individual EMS agencies operating throughout Alaska. A majority of these self-identified as Alaska State-certified agencies. While emergency medical services in the lower 48 are typically categorized as either transporting ambulance services or non-transporting first responder services, EMS in Alaska includes a variety of other configurations. These include spontaneously coordinated groups that form on a temporary but consistent basis, as well as more stable formations that nonetheless challenge typical categorization. Below (Table 2) is our schematic of the variety of EMS in Alaska:

Table 2: Alaska EMS Categories

State-certified EMS agencies	<ul style="list-style-type: none"> <li>• Alaska State-certified</li> <li>• Transport patients in an ambulance or other patient transport vehicle</li> <li>• Able to bill for services</li> </ul>
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Non-certified EMS agencies	<ul style="list-style-type: none"> <li>• Not certified by the State of Alaska</li> <li>• May or may not transport patients</li> <li>• May operate like a certified ambulance service, but are technically not able to bill for services</li> </ul>
Responder groups	<ul style="list-style-type: none"> <li>• Include Search and Rescue (SAR) groups and other organized groups</li> <li>• May or may not transport patients</li> </ul>
Ad hoc groups	<ul style="list-style-type: none"> <li>• Include informal responder groups that are not organized but which are called together to respond in an emergency according to availability, proximity, and willingness to help</li> </ul>
Long-distance transport	<ul style="list-style-type: none"> <li>• Includes medevac, critical care air ambulance, and transport by water/sea</li> </ul>

The above five categories provide a general mapping of the complex and varied ways EMS happens across the state. An EMS agency or group can also be categorized according to ownership structure, be it governmental, non-profit, private for-profit, industrial (including mines, pipeline, shipping, etc.), or led by CHA/Ps in villages.

The opportunity is to understand Alaska’s system both within and beyond traditional ideas of what EMS is – and to envision a path forward accordingly.

An unknown but significant number of ad hoc EMS groups are active statewide. Accounting for these is extremely difficult due to the organic, informal, and often temporary nature of their formation. Many of these groups are located in Alaska’s approximately 200 Native villages scattered across the rural and frontier areas of the state. In addition, and also not calculated here, are the numbers of occasional civilian responses and transports provided by U.S. military crews (including Coast Guard, Air Force, and Army).

Transportation of patients in Alaska is often by ground or air ambulance, as it is for many other systems in the country – but the considerable role of air medical resources, as well as the not uncommon use of the marine ferry system, snow machine, boat, or pickup truck, is a distinctively Alaskan twist.

In many respects, EMS in Alaska looks like EMS in any other place in the country and could be measured, compared, and evaluated as such. That said, Alaska’s EMS system is also a reflection of challenges and contexts for which traditional EMS has never been developed or tasked. The opportunity is to understand Alaska’s system both within and beyond traditional ideas of what EMS is – and to envision a path forward accordingly.

Nearly half of Alaska’s population lives in the city of Anchorage. Aside from Anchorage, only two other cities in Alaska have populations over 10,000 – Juneau, the state capital, and Fairbanks. Over 86%

of Alaskan municipalities – encompassing almost a quarter of Alaska’s total population – are unconnected to a major road system.<sup>6</sup> EMS like other essential services in the state thus operates across a sharp rural-urban divide where much of the rural, or frontier, regions of the state are isolated – accessible only by water or air.

Alaska’s certified and noncertified EMS agencies and organizations are staffed by 3,360 certified and licensed EMT-I, EMT-II, EMT-III, and MICP (paramedic) personnel. These are supplemented by approximately 550 certified CHA/Ps who are trained in emergency medical care, though not all provide EMS; a significant but unknown number of first responders trained in the Alaska-specific Emergency Trauma Technician (ETT) course (more than 1,000 ETTs are certified or re-certified annually); and an unknown number of ad hoc responders who may or may not have Search and Rescue or other formal training.<sup>7</sup>

Certification of emergency medical services is provided by the State of Alaska. Basic Life Support (BLS) certified services must meet certain criteria including: 24/7 response and transportation availability of at least two members, with one or both trained to at least the EMT-I level; a medical director and direct communications capability with a physician, hospital, or mid-level practitioner; and appropriate equipment and continuing education. Advanced Life Support (ALS) certified services meet the same criteria, and in addition, have at least one medical staff member certified or licensed to provide ALS (i.e., an EMT-II, EMT-III, AEMT, mobile intensive care paramedic, registered nurse, physician assistant, or physician). ALS certified services must ensure 24/7 response and transportation availability of at least one certified or licensed ALS provider and at least one other person trained to at least the EMT-I level.

Emergency medical services in Alaska transport patients to a variety of healthcare facilities. Many of these are part of the Alaska Tribal Healthcare system. These include more than 170 village clinics,<sup>8</sup> and 8 of Alaska’s 26 hospitals.<sup>9</sup> Alaska’s 13 critical access hospitals often serve as hub centers for rural village clinics. Alaska has two Level II trauma centers, including the Alaska Native Medical Center and Providence Alaska Medical Center, located in Anchorage. The closest Level I trauma center is Harborview Medical Center in Seattle.

As mentioned above, EMS in Alaska has always faced specific and significant challenges, including the region’s extreme climate, vast distances, sparse population, and limited road system. At over 650,000 square miles, Alaska is by far the largest state in the country – more than double the size of the second-largest state, Texas, and four times the size of California. With fewer than 800,000 residents, it also has the lowest population density.

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[6] Allhoff, F., Golemon, L. (2020). Rural bioethics: The Alaska context. *HEC Forum*, 32: 313-331. <https://doi.org/10.1007/s10730-019-09385-5>.

[7] Workforce numbers used in this report are provided by the Alaska State Office of EMS, the Alaska Native Tribal Health Consortium and the Southeast Region EMS Council.

[8] *Community Health Aide Program*. (2021). Alaska CHAP. <https://akchap.org/community-health-aide/>.

[9] Alaska Division of Public Health, State of Alaska Department of Health and Social Services. (2021). *2021 Primary care needs assessment*. [https://alaskapca.org/wp-content/uploads/2021/05/SOA\\_PCO\\_NA\\_20211865-1.pdf](https://alaskapca.org/wp-content/uploads/2021/05/SOA_PCO_NA_20211865-1.pdf). See also: Alaska State Hospital and Nursing Home Association. (2021). *Fact sheet – Alaska health care: Challenges and opportunities*. <https://www.ashnha.com/wp-content/uploads/2021/01/Fact-Sheet-Alaska-Health-Care-Challenges-and-Opportunities.pdf>.

Despite substantial barriers, EMS in Alaska has grown and adapted to meet local needs in ways that mirror and fit the diversity of its geography, climate, people, and resources. In many ways, Alaska conforms to conventional models of EMS found in the lower 48; in other ways, it reflects significant and fascinating modifications.

## The Structure and Regulation of EMS

The structure and regulation of EMS in Alaska reflect common Alaskan values of independence, self-sufficiency, and local self-determination. EMS in Alaska has progressed more organically than by design and has lacked comprehensive planning for the provision and sustainability of equitable EMS across the state. Therefore, as in much of country, EMS in Alaska has developed with the highest levels of clinical care where they may be needed least, while rural, remote, and frontier areas often struggle to provide minimal levels of clinical care.

EMS in Alaska is largely a local function. There is no state requirement or mandate that EMS be provided. Whether a community has EMS depends on the interest, concern, investment, motivation, leadership, and perseverance of local people. Whether funding for EMS is provided and sustained is also largely left to local decision-making.

The very local nature of EMS in Alaska means that quality, level of services, reliability, and sustainability are determined at the community, group, or sometimes individual, level. Likewise, the power to change, improve, open or close a service, seek or not seek certification or licensure, is determined locally. An individual or group of people may respond to medical emergencies and transport patients without any certification or regulation by the state, and indeed this is not uncommon throughout much of rural Alaska.

To set standards for the provision of EMS and protect the public, Alaska government has sought to regulate EMS. Regulations are codified in Alaska Administrative Code, which spells out the rules developed by the executive branch of government. Chapter 26 addresses EMS and describes regulations for the certification, education, and testing of EMS personnel, and the requirements of certified EMS organizations (ground ambulance services and air ambulances), emergency medical dispatchers, and medical directors.

The Alaska State Office of EMS currently resides under the Department of Health and Social Services (DHSS). First passed in 1977, Alaska Statute (AS) 18.08 designates DHSS responsible for EMS systems development and coordination, gives the DHSS authority to award EMS systems development grants, and assigns a responsibility for conducting and approving training and education programs. In 1978, the Alaska State Legislature also gave the DHSS authority to adopt regulations for certification of basic and advanced level EMTs, EMT instructors, and prehospital emergency medical services (i.e., ambulance and air ambulance services).

Currently the Alaska State Office of EMS certifies and recertifies providers, dispatchers, and EMS instructors; oversees and accredits training courses and programs; administers regulations for medical directors; and licenses ambulance services. The Office of EMS also collects data, updates the State of Alaska EMS Scope of Practice, conducts out-of-hospital and in-hospital disaster preparedness, and

oversees the Alaska EMS for Children program. Today these tasks and responsibilities are managed by an office staff comprised of the following: Office of EMS Manager, Certification Manager, Data Manager, Training Manager, EMS Services for Children Program Coordinator, and Programs Specialist.

Also established by AS 18.08 is the Alaska Council on EMS (ACEMS), organized to provide guidance to the Governor and Commissioner of Health and Social Services and on matters pertaining to emergency medical services across the state. ACEMS is composed of eleven members meeting specific criteria who are appointed by the Governor to serve staggered four-year terms. Importantly, ACEMS has committees, including the Training Committee, Medical Direction Committee, and the Committee for Special Projects. Conversations and interviews with informants for this study suggest that significant planning and development take place in ACEMS committees.

The Office of EMS manages grants to seven State EMS Regions (See Figure 1 and Table 3). The EMS Regions are key players in how EMS in Alaska is provided. While the seven State EMS Regions vary in their approach and activities, all are expected to serve as resources for EMS information, instruction, and coordination in their areas.

Figure 1: State of Alaska EMS Regions



See Appendix B for an extended table outlining the State of Alaska EMS system as of August 2021.

Table 3: State of Alaska EMS Regions

EMS Region	Address
Interior Region	<b>Interior Region EMS Council, Inc.</b> 2503 18th Avenue Fairbanks, AK 99709
North Slope Region	<b>North Slope Borough</b> PO Box 69 1274 Agvik Street Barrow, AK 99723

Northwest Arctic Region	<b>Maniilaq Association</b> PO Box 256 Kotzebue, AK 99752
Norton Sound Region	<b>Norton Sound Health Corporation</b> 1000 Greg Kruschek Avenue PO Box 966 Nome, AK 99762
Southeast Region	<b>Southeast Region EMS Council, Inc.</b> 100 Clothilde Bahovec Way Sitka, AK 99835
Southern Region	<b>Southern Region EMS Council, Inc.</b> 6130 Tuttle Place, Suite B Anchorage, AK 99507
Yukon-Kuskokwim Region	<b>Yukon-Kuskokwim Health Corp.</b> PO Box 528 Bethel, AK 99559

Among the seven State EMS Regions are three non-profit Regional EMS Councils. These were established in the mid- to late-1970s and include: the Interior Region EMS Council, Southern Region EMS Council, and Southeast Region EMS Council. These regions are organized as independent non-profit entities with boards of directors made up of regional EMS stakeholders. EMS directors are hired by the boards and funded through a variety of sources including an annual grant from the State Office of EMS. In contrast, the Northwest Arctic, Norton Sound, and Yukon-Kuskokwim EMS Regions are jointly funded by both the Alaska State Office of EMS and the Tribal Health Corporation in each region. Leadership for these EMS Regions is chosen by the Tribal Health Corporations. Finally, the North Slope EMS Region is funded by both the Alaska State Office of EMS and the North Slope Borough government. Leadership for the North Slope EMS Region is chosen by the North Slope Borough.

## The Economics of EMS

The economics of an EMS system are often overlooked. The economics of EMS include costs, funding, billing, reimbursement, and how EMS is financially structured (i.e., as a public service or market-driven business). Informants for this study, such as EMS Region directors, volunteer first responders, urban field providers, EMS educators, and CHA/Ps, all spoke about the importance of issues related to the economics of EMS in Alaska.

As in most places nationwide, the way EMS developed in Alaska illustrates the complexity of its economics. Costs of providing out-of-hospital care have often been hidden, and funding sources have been varied and at times unreliable. Public works, law enforcement, fire departments, public health, and public education are generally viewed as critical infrastructure, essential services, and public goods that necessitate sustained public funding. The same has not always been true for EMS, and the way EMS is viewed economically continues to be unclear.

While considered by many to be essential, EMS in Alaska straddles several economic models, including unfunded volunteer non-profits, private for-profit and venture capital businesses, a branch of healthcare, a department of municipal or borough services, or part of the critical infrastructure of a Native Tribal Health Corporation. Amidst all this diversity what remains constant is that much of EMS in Alaska operates in an economic environment of great contrast.

Interviews conducted for this study reflect the types of economic contrasts that characterize EMS in Alaska. Some volunteers told of making great personal sacrifices of time, family, and quality of life to provide EMS in their communities. Others told of choosing to work in Alaska, drawn by EMS wages that surpass anything offered in the lower 48. Services with extremely low call volume sometimes pay very well and feature state-of-the-art equipment, while busy volunteers in other services struggle to keep afloat. In this study we sought to make sense of the contrasts and shed some light on the costs, expenses, revenues, and funding sources for EMS in Alaska.

While it is impossible to know with precision what the annual cost of providing EMS is statewide, we conservatively estimate it to be over \$216 million, or \$295 per person. This figure is derived from estimating the cost of a single response and transport in Alaska, including the cost of readiness (personnel, facilities, vehicles, equipment, supplies, training, oversight, regulation, and leadership), which comes to approximately \$3,000, and then multiplying this by 72,000, the annual statewide total number of responses and transports (including air medical). This produces a rough, conservative estimate of the annual cost of EMS statewide.

While the accuracy of this estimate could be challenged, the point is to demonstrate that EMS in Alaska has significant costs. The costs of readiness in Alaska are high, driven by Alaska’s geography and distances, climate, low population density, lack of road systems, the decentralized nature of the delivery model, challenges to providing training, and the frequent use of air medical services.

These costs are met through a variety of funding sources. The State of Alaska provides some grants through the seven EMS Regions that are used by local services for training, equipment and sub-regional coordination; however, besides these, no sustaining funding for EMS is allocated. The State of Alaska, in this sense, is less concerned with providing or sustaining EMS as it is in regulating it once it exists. Significant sources of funding for EMS, ranked from largest to smallest, are as follows:

*Table 4: Sources of Funding, Alaska EMS*

Source of Funding	Description
Donated labor (Volunteerism)	If all EMS volunteer hours statewide were to be valued at fair market wages, volunteerism would likely emerge as the largest subsidizer/funder of EMS in Alaska.
Transport revenues	These are the revenues collected from billing insurance companies, both Medicare and Medicaid, and private payers.
Local tax funding	This comes from municipal or borough funding through taxes or the general fund.

Tribal Health Corporations	Some Alaska Native Tribal Health Corporations view EMS as an essential service and fund it accordingly.
Local fundraising	This accounts for all local fundraising events.
State EMS Regional grants	Annual grants to the seven EMS Regions provided by the Alaska State Office of EMS <sup>10</sup>
Other grants	Code Blue and other grants <sup>11</sup>
Philanthropy	Gifts from foundations or corporations
Donations	Private donations, mostly to volunteer services

Sustainable funding for EMS is not a significant problem in Alaska’s urban areas. Emergency medical services in urban areas are primarily provided by fire departments or governmental services. Fire departments enjoy being viewed as essential services, and EMS provided in this model is sustainably funded through a combination of billing for transport and tax support. Urban EMS in Alaska will likely continue to be funded in a manner that assures its existence.

This is not the case in much of rural Alaska where call volume is relatively low and services are provided mainly by volunteer organizations. For purposes of this report, volunteers are EMS workers who receive no compensation or something less than regular wages. Volunteer services in Alaska are funded by a combination of donated labor, transport revenues, grants, fundraising, philanthropic donations, and some limited funding from municipalities and boroughs. Informants for this study, however, report that these sources are not enough. Our survey found 43 of 68 certified services in Alaska report their communities do not provide an appropriate amount of funding. Many of these are in rural areas.

Rural Alaska is also affected by recent declines in volunteerism. The largest expense for any EMS agency is labor. It can also be said that the largest financial support or subsidy of EMS in Alaska is volunteer labor. In volunteer EMS organizations, labor costs are not accounted for and are therefore hidden. As volunteerism declines, however, organizations must contemplate paying staff or going out of business. At this point, a service’s heretofore hidden labor costs become glaringly apparent.

In 2020, a volunteer hour in Alaska was valued at \$30.30 per hour.<sup>12</sup> This value is based on the minimal amount it would take to replace a volunteer with a fully paid employee. Of the 68 Alaska State-certified EMS agencies, 48 report using volunteers. Moreover, 22 of the 48 are staffed predominately by volunteers. If these 22 services were to replace their volunteers with 24/7 paid staff at \$30.30 per hour, the annual cost would be in excess of \$11,680,000, or \$530,865 per service.

[10] During the study, informants expressed puzzlement over the formula used to determine the amount of funding the State annually grants to each EMS Region. “This formula was determined years ago,” an informant said, “and no one can remember why it was set this way.”

[11] For more on the Code Blue grant, see EMS Regional websites: <https://www.sremsc.org/programs/>; <https://www.serems.org/programs/code-blue/>; <https://iremsc.org/ems-information/regional-offices/code-blue-projects/>.

[12] This calculation comes from the Independent Sector, a non-profit organization that calculates the value of a volunteer hour based on data from the Bureau of Labor Statistics. [https://independentsector.org/resource/vovt\\_state\\_2021/](https://independentsector.org/resource/vovt_state_2021/).

Calculating the value of volunteer labor helps communities, residents, and governments to recognize the true costs of the emergency medical services they are receiving from volunteers. It is an opportunity to better understand the real and full value of the services provided.

Many rural EMS agencies in Alaska face another complication related to funding; they operate in populated areas that are unincorporated. In places like Moose Pass, Cooper Landing, Cantwell, and Tok, not being incorporated is valued by residents as protection from taxation and government overreach. However, this presents a major challenge when financial resources are needed for expected public services like EMS.

For example, Tok Area EMS responds to approximately 300 calls per year. Volunteer staffing for this service has dwindled to three regularly active individuals, and the service has been unsuccessful in recruiting a new generation of volunteers. To continue to be viable the service will likely need to move to a fully paid staffing model in the near future. The area's lack of incorporation, however, provides no entity, structure, or source of funding to work with.

Numerous informants for this study report the economics of air medical services in Alaska to be challenging. We heard anecdotal evidence of this in various locations throughout Alaska, but precisely because of the market environment and competitive, decentralized nature of these services, had little access to data.

## EMS Communication

Communication is a key element of any EMS system. Communication includes call-taking and access to services, dispatch, response and scene communication, interoperability, communication with receiving facilities, and communication-related data collection.

Call-taking and dispatch in urban or populated areas in Alaska is by a 9-1-1 call system answered by 45 Public Safety Answering Points (PSAPs). Primary PSAPs are backed up by a larger number of secondary PSAPs. The primary PSAPs are a blend of local and state entities. PSAP dispatcher qualifications vary from on-the-job experience to certification as an emergency dispatcher from organizations such as the International Academies of Emergency Dispatch. The State of Alaska certifies Emergency Medical Dispatchers (EMDs) but does not require that 9-1-1 dispatchers be EMD-certified. EMDs must have physician medical director approval before using medical advice protocol systems such as The Medical Priority Dispatch System™.

Informants for this study describe communications in Alaska's urban areas as adequate and appropriately resourced to meet needs. Radio communications and cell phone communications in urban areas are reported to be generally reliable.

Communications in rural and frontier parts of Alaska are a different story. As with many public services in rural Alaska, public safety communications and dispatching have developed with limited resources. Logistics are complex and expensive for agencies operating in remote Alaskan communities, and thus many systems lag behind what are normal operations in urban areas of the state.

In rural areas 9-1-1 access and enhanced 9-1-1 access have not been reliable. In interviews for this study, multiple informants report 9-1-1 calls do not go through, are dropped, and/or are routed to dispatch centers lacking a caller location. Radio and cell phone communications in some areas of rural Alaska are nonexistent. In rural coastal areas marine radio channels are one of the most common ways of communicating. Informants from Alaska's Interior Region report going on calls with the expectation they will not have reliable communications once they leave the ambulance station.

Interviews with EMS providers find that some see a need for more trained EMDs to help callers provide basic medical interventions while awaiting response. Informants also describe a need for more collaboration in emergency communications. Data suggests the desirability of a more centralized approach that could leverage resources and expertise to ensure all corners of Alaska are appropriately served.

In 2020 Alaska's Governor formed a 9-1-1 and Dispatch Consolidation Working Group, with the goal of developing recommendations to improve 9-1-1 access and emergency communications throughout the state. The Governor's order states:

In an emergency, whether a natural disaster or life-threatening event, state public safety agencies must be able to communicate with persons affected and with first responders immediately, efficiently, and reliably. That communication capability must extend to all parts of the state. The State must employ a coordinated and comprehensive approach that leverages resources and expertise found within government bodies and the first responder community.<sup>13</sup>

The 9-1-1 and Dispatch Consolidation Working Group has met several times but appears to be stalled in finding agreement to create a centralized dispatch center in the southeast portion of the state.

## Clinical Levels and Education

Alaska's clinical levels for certification and licensure of providers are unique. Most states in the U.S. certify and license EMS providers according to the four levels outlined in the National EMS Scope of Practice Model, which include: 1) Emergency Medical Responder (EMR); 2) Emergency Medical Technician (EMT); 3) Advanced Emergency Medical Technician (AEMT); and 4) Paramedic. The National EMS Scope of Practice Model is mirrored by the National Registry of EMTs (NREMT), which tests and certifies EMTs and paramedics.

Alaska does not conform to the national model. The unique needs of EMS in Alaska have been met through the development of Alaska-specific certification and licensure levels. Instead of using the Emergency Medical Responder (EMR) curriculum, Alaska has developed an Emergency Trauma Technician (ETT) program to train first responders in the state. The ETT program is taught by Alaska State-certified instructors, although the program is not a state certification and was developed in its current form by the Southeast Region EMS Council.

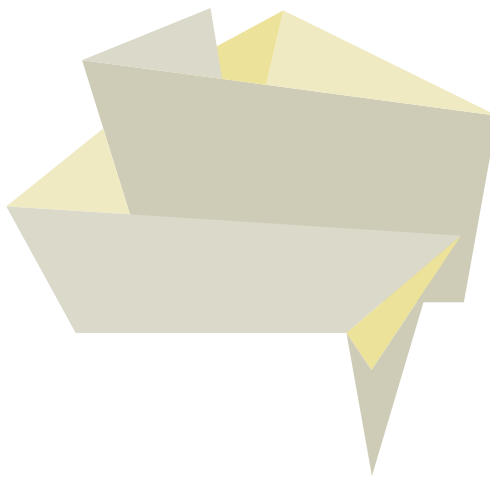
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[13] 9-1-1 and Dispatch Consolidation Working Group. (2020). *Report and Recommendations*. <https://aws.state.ak.us/OnlinePublicNotices/Notices/Attachment.aspx?id=124322>.

The Southeast Region EMS Council, Inc. (SEREMS) published the first ETT textbook in 1978, followed shortly after by an Instructor Guide and ETT Policy manual. The program's roots were in the burgeoning logging and fishing industries which needed simple and practical emergency medical training for its workers that considered things like environmental risks, immobilization, and delayed transportation. These things were not part of other first responder training programs at the time but were part and parcel of the ETT curriculum.

By 1980 the ETT program was adopted by the State of Alaska as a training program that fit the needs of individuals and communities throughout its frontier regions. The curriculum fit Alaska's needs regarding sheer size and distances, weather extremes, geographic challenges, and lack of roads. The ETT program also includes education standards for transport, packaging, and splinting that are lacking in the EMR curriculum but which are essential to EMS providers working in rural and frontier areas of Alaska.

The 40-hour ETT program is the building block of Alaska EMS. The program not only reflects the state's distinctive geographic and environmental challenges, but also has been developed around the specific socio-economic and demographic conditions of rural and frontier Alaska. The curriculum is built to convey essential information easily to providers who may or may not be proficient in reading English. Critical thinking skills are taught with minimal emphasis on academic or book learning. As one informant for the study explains, the ETT certification helps communities provide care for their members by decreasing barriers to entry into EMS. It provides basic and practical skills that are foundational for building capacity even while requiring lower levels of investment of time and resources than certification at the EMT level. The ETT program is the EMS foundation for CHA/Ps as well, and it is taught in high schools across Alaska beginning at age 14.



Alaska certifies three cascading Emergency Medical Technician (EMT) levels: EMT-I, EMT-II, and EMT-III. These certifications entail escalating levels of skills and care but remain below the level of paramedic (MICP). Most EMTs working in Alaska are certified at the EMT-I level. This level entails approximately 140-160 hours of training and provides Basic Life Support (BLS) and some medications. The Alaska EMT-I level mirrors the NREMT EMT level.

Certification at the EMT-II level requires 50-80 additional hours of training and prepares the provider to initiate intravenous and intraosseous fluids, draw blood, and among other skills, administer additional medications including epinephrine in cardiac arrest and Tranexamic Acid (TXA).

The EMT-III level requires another 50-80 hours of training and prepares the provider to use 12-lead cardiac monitoring, cardioversion manual defibrillation, and transcutaneous pacing. A provider certified at the EMT-III level is also permitted to administer antiarrhythmics, atropine, and opioid analgesics, among other medications.

Alaska also certifies providers at the Advanced Emergency Medical Technician (AEMT) level. The Alaska AEMT level matches the AEMT level certified by the NREMT. Certification requires 160-250 hours beyond the EMT-I level and prepares the provider to administer atropine, opioid analgesics, and benzodiazepine for seizures, among other medications.

To become a paramedic, or Mobile Intensive Care Paramedic (MICP), in Alaska requires basic EMT training and the completion of a program accredited by the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP). Alaska has three paramedic programs (University of Alaska, Fairbanks; University of Alaska, Anchorage/Matanuska Susitna College; and University of Alaska, Anchorage Kenai Peninsula College). Alaska requires that the paramedic program include a 480-hour practicum or internship. Paramedics must pass the cognitive and psychomotor components of the NREMT paramedic exam to apply for Alaska licensure with the State Medical Board.

Paramedics coming to Alaska from another state must meet certain reciprocity requirements, which some informants for this study believe are unnecessarily impeding recruitment. Informants also express concern about the paramedic recertification continuing education requirement, saying the requirement is burdensome and not practical in an environment where distances make continuing education difficult to obtain.

Interviews with providers, directors, trainers, and other EMS stakeholders reveal divided opinions concerning the value of Alaska's unique clinical certification levels, which are not recognized outside of Alaska. The cascading levels have allowed Alaska services and communities to benefit from advanced levels of care without providers having to invest in the full AEMT or paramedic training. Proponents of the three EMT levels assert that many communities in rural areas would not have advanced levels of care if Alaska were to follow the NREMT model. Proponents assert that the three levels provide an important, graduated process that allows providers to gradually increase their certification level. They assert that many Alaskan providers would be less likely to progress to advanced levels of care without the option of becoming an EMT-I and then simply adding on additional levels as time and opportunity present. Proponents believe having some levels of advanced care is truly necessary in Alaska given its geography and distances and the extended times that providers may spend with patients.

Those opposed to Alaska's three EMT levels express concerns about the quality of advanced providers, reciprocity, and the testing process. Informants for this study say Alaska's model replaces in-depth clinical training with the production of technicians that do not have the necessary knowledge of physiology to appropriately assess and treat patients. As the levels of EMT-II and EMT-III are not recognized outside of Alaska, providers at these levels are unable to take their advanced experience and skills out of state. Finally, Alaska must test, certify, and recertify its three EMT levels – a process that not only demands Alaskan resources, but may not possess the rigor and validity that comes with using the national model and national testing.

The scope of practice for each certification level is established by the Alaska State Office of EMS, but medical directors may expand the scope with Office of EMS approval.

## Workforce

Alaska’s EMS personnel do extraordinary work in a challenging environment. They provide first response, medical treatment, and patient transport in extreme weather and through rugged terrain, and many also work in rural and frontier regions across a sharp rural-urban divide. Rural healthcare across the U.S. faces challenges in access and quality, but because of Alaska’s vast size and tiny population its rural healthcare challenges are, in the words of one researcher, “multiplied by an order of magnitude.”<sup>14</sup> Instead of extra transport time in the minutes, rural EMS personnel in Alaska see hours, or in some rare cases days, of extra transport time compared to urban areas.

Emergency medical services for Alaska’s approximately 729,000 residents and millions of visitors per year are provided by several thousand EMS personnel working across the state. Precise numbers are difficult to calculate, as data gathering for EMS workforce is either partial and limited or not done at all. As one EMS Region director interviewed for this study told us, “There is really no way to determine how many EMTs and ETTs we have in our region. The state may be able to give numbers based on certified EMTs’ addresses, but that does not guarantee they are working in the area.” In the case of ETTs, moreover, there is no registry, making it impossible to know how many there are in the state, much less where they are working by region. Data provided by the Southeast Region EMS Council suggests more than 1,000 ETTs are trained or recertified each year.

These limitations aside, data from the Alaska State Office of EMS show the following EMS personnel statewide:

Table 5: Workforce numbers

Level	Number statewide
CHA/P	550
ETT	1,000 +
EMT - I	1,705
EMT - II	454
EMT - III	674
AEMT	31
MICP	496

The Alaska Community Health Aide Program (CHAP) estimates 550 Community Health Aides/Practitioners (CHA/Ps) are currently active in over 170 rural Alaska villages. As part of their certification CHA/Ps are trained to the ETT level, though some also become certified at the EMT-I level and higher.<sup>15</sup>

Staffing is the top challenge and number one need reported by both State-certified and noncertified

[14] Allhoff, F., Colemon, L. (2020). Rural bioethics: The Alaska context. *HEC Forum*, 32: 313-331. <https://doi.org/10.1007/s10730-019-09385-5>.

[15] *Community Health Aide Program*. (2021). Alaska CHAP. <https://akchap.org/community-health-aide/>.

EMS organizations in this study. Staffing concerns include lack of adequate staffing, recruitment and retention challenges, and challenges related to volunteerism. Most certified EMS agencies in Alaska operate with fifteen or fewer active staff. Many use volunteers. Significantly, less than 20% of all certified EMS agencies in the state report they have enough staff today. EMS agencies in urban areas of Alaska appear more sustainable and have adequate capacity, though EMS in many rural and frontier areas is not long-term sustainable.

Challenges related to volunteerism are exacerbated by the shortage of healthcare workers of all types that has affected Alaska, particularly in its rural areas, for decades. Like many states in the U.S. Alaska lacks adequate numbers of both primary care and specialty care health providers, nurses, and other medical personnel. Alaska also suffers from great disparities in access, with most physicians, for example, concentrated in urban areas of the state. Another critical need is in the areas of mental and behavioral health. There is only one psychiatric hospital for the entire state of Alaska, and the state's other mental and behavioral health services also struggle with capacity and access issues.<sup>16</sup>

Alaska's shortage of healthcare personnel and inequities in distribution and access to care have profound effects on the state's EMS. Providers in regional hub cities we visited for this study told of misuses, time and again, of EMS resources by behavioral health patients. Without appropriate behavioral health facilities, treatment programs for alcohol and substance abuse issues, and social services to provide long-term rehabilitation and care to these patients, EMS workers are left to pick up the slack. We observed and heard about the stresses and blows to morale that this type of chronic misuse of EMS has on individual providers and EMS organizations. Besides making recruitment and retention of workers all the more challenging, behavioral and mental health calls place additional strain and emotional and psychological stress on EMS personnel responding to them.

In Alaska's villages, effects of the healthcare worker shortage and the statewide dearth of psychiatric and behavioral healthcare are shouldered by CHA/Ps. In many villages, CHA/Ps are the only trained healthcare providers around, with the nearest physician or advanced level practitioner available only remotely from urban hub facilities. CHA/Ps work in sometimes persistently understaffed primary care health clinics during business hours, and then in many regions are on-call for emergencies throughout the evening and night. The CHA/Ps we interviewed for this study express difficulty balancing a sometimes full clinical schedule with 24/7 EMS responsibilities. Alaska Native CHA/Ps are also prevented from taking part in subsistence and other culturally or personally meaningful practices due to their jobs.

EMS workers in villages also deal with personal safety issues when responding to emergencies. According to a 2019 investigation by Anchorage Daily News and the ProPublica newsroom, more than a third of all villages in Alaska have no local police of any kind.<sup>17</sup> CHA/Ps and other first responders in these communities have no recourse to law enforcement protection or backup when responding to emergency calls. Provider informants for this study describe how security concerns add to and amplify the stress and burden of frequent on-call duties.

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[16] Cravez, P. (2017). Alaska's Lack of Psychiatric Beds and Consequences. *Alaska Justice Forum*, 34(1). <http://hdl.handle.net/11122/7683>.

[17] Hopkins, K. (2019, December). Alaska's law enforcement crisis is a public emergency. Here's how experts want to fix it. *Anchorage Daily News*. <https://www.propublica.org/article/alaskas-law-enforcement-crisis-is-a-public-emergency-heres-how-experts-want-to-fix-it>.

Alaska's EMS workforce is in many places stretched and overburdened, even as roles for emergency medical care providers expand due to pressures and gaps in the healthcare and social services sectors mentioned above. As in many communities across the U.S., Alaska's EMS personnel, especially its volunteers, are aging, without adequate numbers of replacements coming forward.

Some regions are trying to recruit more EMS workers through incentives like property tax exemptions and utilities discounts. By most reports, however, these efforts are not enough. Some informants say efforts to train and recruit EMS volunteers out of Alaska's high schools are having some success, however more study is required to verify the impact. Less than half of all certified EMS agencies surveyed for this study report having defined recruitment strategies or regularly engaging in recruitment activities.

## The Rural-Urban Divide

Overall, emergency medical services in areas of Alaska defined as urban are appropriately resourced, have adequate capacity, and while facing increasing workforce issues are sustainable. Areas defined as urban include the cities of Anchorage, Juneau, and Fairbanks, as well as the Matanuska-Susitna (or "Mat-Su") Valley, and the Kenai Peninsula.

Alaska has a hub-and-spoke healthcare system, with semi-urban "hub" cities the locations for larger clinics, medical centers, or hospitals. Hub cities often receive multiple patients via medevac per day, coming from the surrounding villages for both emergency and routine medical services requiring a higher level of care than provided by CHA/Ps in village clinics. In addition, there are Level II trauma centers in Anchorage, at Alaska Native Medical Center and Providence Alaska Medical Center. The closest Level I trauma center is Harborview Medical Center in Seattle.

Much has been written about the rural-urban healthcare divide in the United States. Researchers, academics, and policy makers have investigated disparities in rural versus urban communities' health, whether it be access to healthcare or health outcomes. According to a 2017 report by the U.S. Centers for Disease Control and Prevention (CDC), the rates of heart disease, cancer, unintentional injury, chronic respiratory disease, and stroke are all higher in rural communities than in urban ones.<sup>18</sup> Rural communities across the U.S. are affected the most by physician and medical personnel shortages including those in mental and behavioral healthcare. In addition, demographic changes in the U.S. show that rural diversity is increasing. As one researcher of health disparities notes, "We look at differences through rural-urban classifications, but when you layer in the issues of race and ethnicity, you find even greater disparities [within rural populations]."<sup>19</sup> The rural-urban healthcare divide is complex and requires understanding multiple factors and layers of vulnerability.

As mentioned in previous sections, the rural-urban divide in Alaska is stark. Vast distances and

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[18] Garcia, M.C., Faul, M., Massetti, G., Thomas, C.C., Hong, Y., Bauer, U.E., Iademarco, M.F. (2017). Reducing potentially excess deaths from the five leading causes of death in the rural United States. *MMWR Surveillance Summaries*, 66(SS-2): 1-7. <http://dx.doi.org/10.15585/mmwr.ss6602a1>.

[19] Warshaw, R. (2017, October). Health disparities affect millions in rural U.S. communities. *Association of American Medical Colleges (AAMCNews)*. <https://www.aamc.org/news-insights/health-disparities-affect-millions-rural-us-communities>.

geographic and infrastructure challenges exacerbate the usual issues related to access in rural areas, and the prevalence of Alaska Native populations in rural and remote areas of the state illustrates the complexity of addressing rural needs. Alaska's rural population grapples in varying degrees with one or more of the following: residence in inaccessible, remote, and frontier locations; language barriers; social and cultural marginalization; and histories of dispossession and violence stemming from racial discrimination and enclosure. EMS in rural Alaska operates in an environment where multiple, complex factors leading to health disparities are present.

In Alaska as it is throughout the nation, efforts to address health disparities at their root causes are often hindered by the deeply political nature of the process. The complexity of Alaska's rural challenges means grappling with, among other things, issues that are deeply related to the state's history and to long-standing debates about the rights of Alaska Native peoples. These are political issues that stir many deeply and which have produced legal and institutional legacies of conflict and struggle.

In 1971, Congress passed the Alaska Native Claims Settlement Act (ANCSA), a piece of legislation that is unique in the history of Native American land settlements. Along with a payment of nearly \$1 billion for land lost in the settlement, ANCSA transferred 45 million acres to twelve newly created Alaska Native Corporations (there are now thirteen) owned by Alaska Native shareholders. In exchange, all indigenous land claims in Alaska were extinguished.<sup>20</sup> Unlike the reservation system in the lower 48 states, the foundation for land settlement in Alaska is Alaska Native corporate ownership.

Even as ANCSA settled indigenous land claims in Alaska and created what to many seemed unprecedented opportunities for Alaska Native peoples through the economically powerful Native Corporations, other rights to land and water use for subsistence practices were not addressed, and political processes surrounding these rights, as well as questions about language and cultural preservation and the self-determination of Alaska Native peoples, became ongoing.

In 1980, almost a decade after ANCSA, Congress passed the Alaska National Interest Lands Conservation Act (ANILCA), which recognized subsistence uses of fish and wildlife and prioritized these above sport and commercial uses. Title VIII of the act mandated a priority for subsistence use of fish and game by "rural residents" of Alaska. The subsistence use priority was given explicitly to "rural" rather than "Native" Alaskans as a political compromise aiming to protect Alaska Native subsistence rights while at the same time appeasing the State of Alaska and other groups who argued against a priority based on race or ethnicity.

Much has been written about Title VIII of ANILCA. The act's rural priority leverages the ambiguities and latent meanings of the word "rural" in the Alaskan context. In Alaska "rural" both is, and is not, understood to mean "Native." This is relevant because it bears on how EMS is provided and supported in specific rural settings in Alaska. In some cases, it becomes necessary to distinguish between rural Native villages, on the one hand, and rural communities that are not Native villages, on the other. Each setting requires EMS be understood and supported in specific and often different ways. In our observations of the Alaska EMS system, this distinction is not typically made explicit, although it is one that for both analytical and practical reasons we find to be helpful.

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[20] See Anderson, R.T. (2007). Alaska Native rights, statehood, and unfinished business. *Tulsa Law Review*, 43(1): 17-42. <https://digitalcommons.law.utulsa.edu/tlr/vol43/iss1/3>.

In rural Alaskan communities that are not Native villages, EMS faces many of the same challenges as rural EMS in the lower 48. Ambulance services struggle with rising expenses, declining reimbursements, increasing demand for services, and pressing workforce issues. These challenges are exacerbated by Alaska’s geography and climate, sparse population, and by the fact that many rural Alaskan communities are unincorporated and/or lack tax bases, local governments, and the leadership and organizational structures conducive to funding and operating EMS.

We observed one rural ambulance service, for example, in the Interior Region of Alaska struggling to cover a service area the size of the state of Arkansas. With a limited staff, five ambulances, and virtually no tax base, the service relies heavily on the labor and dedication of its two-person ownership team. When asked what it worries most about going forward, the service identifies “sustainability” as an overarching worry, with “keeping all the trucks on the road” as an immediate concern. With every call requiring long transport distances over sometimes rough and broken roads, and given Alaska’s extreme weather, maintaining vehicles and equipment is an ongoing and sometimes urgent challenge.

As in the lower 48 states, rural EMS in Alaska is subsidized by volunteer labor and faces many of the same challenges. We found qualitative evidence of burnout and stress from the brunt of the work falling on the shoulders of a few. Several rural ambulance services, including the one mentioned above, have staff who feel unable to go out of town for the day for fear of leaving their communities without emergency coverage.<sup>21</sup> EMS in these areas is being propped up by a dedicated few.

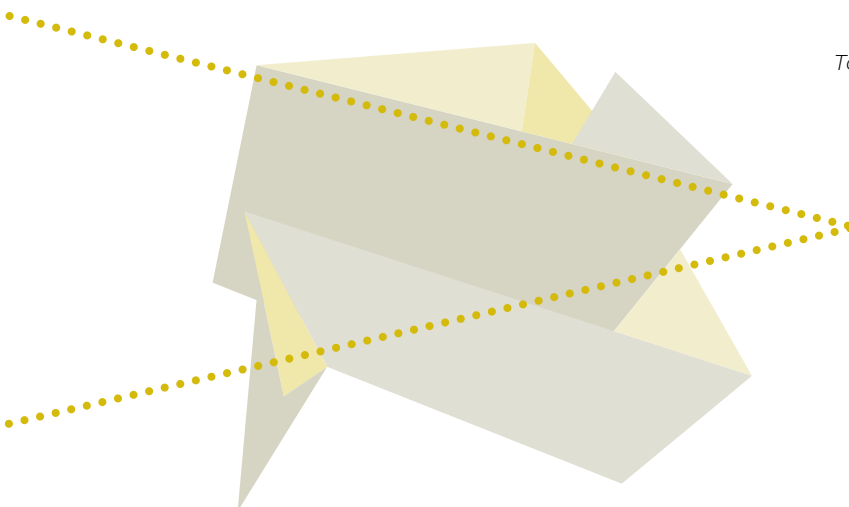


Table 6: Staffing challenges

State-certified services	
Services that use volunteers	74%
Services with 15 or fewer active staff	60%
Services that report they have enough staff	18%
Non-certified services	
Staffed solely or predominantly by volunteers	69%
Services with 10 or fewer active staff	96%
Services with less than 5 active staff	53%

Source: SafeTech Solutions, Statewide EMS Survey 2020

## EMS in Native Corporations and Villages

Today Alaska is home to approximately 140,000 Alaska Native residents, making up about 15% of the total state population and representing some 229 tribes. While the largest single concentration of

[21] This study found that less than half (43%) of State-certified services report members are able to leave town without worry or guilt about EMS coverage in their service area. Of non-certified services, over half (53%) have less than five active staff members.

Alaska Native people can be found in Anchorage, over half the Native population in the state lives in rural, often remote, villages of less than 1,000 people.

Since the passing of ANCSA, questions about Native rights and of tribal sovereignty that were not explicitly addressed by the original passing of the act have undergone considerable elaboration. ANCSA itself has been amended several times, most notably in 1991, and in the words of one legal scholar, Native Alaskans' claims to "land, human services, subsistence, and self-government" have seen "near revolutionary development" in recent decades.<sup>22</sup>

One area where this development is apparent is healthcare. Alaska Native peoples have been self-sufficient caretakers of the health and wellbeing of their community members for thousands of years. The modern development of Alaska's Tribal Health System reflects this legacy. The Alaska Native Tribal Health Consortium (ANTHC) was formed in 1997 to meet the specific health needs of Alaska Native people. It is the largest and most comprehensive tribal health organization in the country. ANTHC employs more than 3,000 people in Alaska and co-manages the Alaska Native Medical Center in Anchorage.<sup>23</sup> The success of ANTHC in empowering tribes and tribal organizations to manage and operate healthcare services for the benefit of their communities is an illustration of the ways Alaska Native people's claims to land, human services, resources, and self-determination shape the healthcare environment throughout the state.

Despite many achievements, the provision of basic healthcare and services to many Alaska Native residents is challenging. Over 30 Native villages, for example, representing some 3,300 homes do not have running water or flush toilets.<sup>24</sup> Health disparities exist between Alaska Native populations and other populations in the state. In 2015, the average life expectancy for Alaska Natives was 69.7 years old, the same life expectancy as all Americans in 1960.<sup>25</sup> Measures including life expectancy, infant mortality, and leading causes of death suggest significant work remains before health equity for Alaska Native populations is achieved.

EMS in Native villages, where it exists, has depended heavily on Alaska's Community Health Aides/Practitioner(s), or CHA/Ps. These non-physician frontline providers, usually Alaska Native women, provide primary care to their fellow village residents at the village health clinic. Though it varies greatly by region many CHA/Ps also play key roles in EMS in Alaska's villages. Currently there are more than 170 tribally run health clinics operating across Alaska; these cover the vast majority of all federally recognized tribal villages in the state. It is unclear, however, how many villages have active EMS. High CHA/P turnover and a widespread lack of data make accounting difficult.

While we did not explicitly study the CHA/P program for this assessment, we did try to understand its

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[22] Case, D.S., Voluck, D.A. (2012). *Alaska Natives and American laws* (3rd ed.). University of Alaska Press.

[23] Alaska Native Tribal Health Consortium. (2021). *Overview*. <https://anthc.org/who-we-are/overview/>.

[24] Alaska Department of Environmental Conservation, Division of Water. (2021). *Alaska water and sewer challenge (AWSC)*. <https://dec.alaska.gov/water/water-sewer-challenge/>.

[25] See Galvin, G. (2017, December). 'Clash of cultures' at root of Alaska's health disparities. *U.S. News & World Report*. <https://www.usnews.com/news/healthiest-communities/articles/2017-12-07/despite-improvements-alaskas-health-disparities-persist>.

important role in the provision of EMS in villages. Because CHA/Ps play such a central role in responding to medical emergencies, we provide a brief history and outline of the program below.

## The Community Health Aide / Practitioner Program in Alaska

Alaska's Community Health Aide/Practitioner (CHA/P) program has been in existence for over 50 years. The program emerged out of an Indian Health Service (IHS) initiative in the 1950s that mobilized local Native workers in the fight against tuberculosis epidemics in the villages. In 1968, after successful pilot programs training and using non-physician, local Native staff as frontline medical workers, the CHA/P project became a formally funded IHS program.<sup>26</sup> Today, over 550 village-based Community Health Aides/Practitioners provide care for over 50,000 patients across Alaska.

CHA/Ps are supervised and employed by Tribal Health Organizations that operate under the Indian Self-Determination and Education Assistance Act. CHA/Ps are often the sole medical provider in their village and the only individual with any kind of medical training for miles around. CHA/Ps are certified by the Federal Community Health Aide Program Certification Board Standards and Procedures, which also governs their training. Training prerequisites to become a CHA/P include English proficiency and mathematics at the 6th grade level; however, the vast majority (94%) of CHA/Ps are high school graduates.<sup>27</sup>

Several studies and reports concerning the CHA/P program have been conducted, with many researchers describing CHA/Ps as "the backbone" of the tribal healthcare system and "the secret to Alaska's success in providing health services in remote areas."<sup>28</sup> These studies highlight the layers of roles and responsibilities taken on by CHA/Ps, including maintaining regular clinic hours; providing on-call and emergency services 24 hours a day, 7 days a week; providing preventive, acute, chronic, and emergency care to both adults and children; and serving as public health nurse, educator, administrator, and more.<sup>29</sup>

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[26] See U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA). (2003). *The Alaska Community Health Aide Program: An integrative literature review and visions for future research*.

[https://www.uaa.alaska.edu/academics/college-of-health/departments/ACRHHW/dataandreportspages/\\_documents/2004%20The%20Alaska%20Community%20Health%20Aide%20Program\\_An%20Integrative%20Literature%20Review%20and%20Visions%20for%20Future%20Research.pdf](https://www.uaa.alaska.edu/academics/college-of-health/departments/ACRHHW/dataandreportspages/_documents/2004%20The%20Alaska%20Community%20Health%20Aide%20Program_An%20Integrative%20Literature%20Review%20and%20Visions%20for%20Future%20Research.pdf).

[27] Golnick, C., Asay, E., Provost, E., Van Liere, D., Bosshart, C., Rounds-Riley, J., Cueva, K., Hennessy, T.W. (2012). Innovative primary care delivery in rural Alaska: A review of patient encounters seen by community health aides. *International Journal of Circumpolar Health*, 71. <https://dx.doi.org/10.3402%2Fijch.v71i0.18543>.

[28] See U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA). (2003). *The Alaska Community Health Aide Program: An integrative literature review and visions for future research*.

[https://www.uaa.alaska.edu/academics/college-of-health/departments/ACRHHW/dataandreportspages/\\_documents/2004%20The%20Alaska%20Community%20Health%20Aide%20Program\\_An%20Integrative%20Literature%20Review%20and%20Visions%20for%20Future%20Research.pdf](https://www.uaa.alaska.edu/academics/college-of-health/departments/ACRHHW/dataandreportspages/_documents/2004%20The%20Alaska%20Community%20Health%20Aide%20Program_An%20Integrative%20Literature%20Review%20and%20Visions%20for%20Future%20Research.pdf).

[29] Ibid.

CHA/Ps also represent sites of contact and collaboration between the federal government, regional Native Tribal Health Corporations, individual villages, and the State of Alaska. In a 2003 report on the Alaska CHA/P program, Alaska’s Department of Health and Social Services (DHSS) observes, “each partner play[s] an important and crucial role in the [CHA/P] program’s success.”<sup>30</sup> While CHA/Ps are employed and supervised by regional Tribal Health Corporations, or sometimes by individual villages, they are also supported by the State of Alaska in a variety of ways. One of these is through the Office of EMS, which provides training, equipment, and other resources to aid CHA/Ps in their EMS role. In addition, three State EMS Regions are currently run by Tribal Health Corporations:

Table 7: State EMS Regions - Tribal Health Corporations

State EMS Region	Tribal Health Corporation
Northwest Arctic Region	Maniilaq Association
Norton Sound Region	Norton Sound Health Corporation
Yukon-Kuskokwim Region	Yukon-Kuskokwim Health Corp.

All CHA/Ps are trained to the ETT level, and some also have EMT-I to EMT-III training. The clinics are stocked with basic emergency equipment, including defibrillators, monitors, and 12-lead EKGs. Many clinics are also equipped with vehicles, sleds, or ATV trailers for patient transportation. Ideally, the village also has a Village Public Safety Officer (VPSO) and a trained group of first responders who would be summonsed in the event of a medical emergency to respond, treat, package, and transport the patient to the clinic.

Table 8: CHA/P education/training levels

<b>Pre-Session</b>	<ul style="list-style-type: none"> <li>• Tribal Health Organization policies</li> <li>• Introduction to the <b>Alaska Community Health Aide/Practitioner Manual (CHAM)</b></li> <li>• Introduction to the CHA/P role</li> <li>• 1-week ETT training; some receive EMT-I training</li> </ul>
<b>Session I</b>	3 -4 weeks long at a certified Training Center <ul style="list-style-type: none"> <li>• Vital signs</li> <li>• Charting</li> <li>• Medicine skills</li> <li>• Emergency skills</li> <li>• Some body systems</li> <li>• + 20 patient encounters at the village clinic</li> </ul>
<b>Session II</b>	3 -4 weeks long at a certified Training Center <ul style="list-style-type: none"> <li>• Body systems</li> <li>• + 60 patient encounters (200 hrs.) at village clinic</li> </ul>

[30] Ibid.

<b>Session III</b>	3 -4 weeks long at a certified Training Center <ul style="list-style-type: none"> <li>• Maternal-child health</li> <li>• + 60 patient encounters (200 hrs.) at a village clinic</li> </ul>
<b>Session IV</b>	3 -4 weeks long at a certified Training Center <ul style="list-style-type: none"> <li>• Chronic care</li> <li>• + 60 patient encounters (200 hrs.) at a village clinic</li> </ul>

Typically, when an urgent or emergency event occurs in villages, local residents turn to the clinic and CHA/P to respond or to coordinate response. The CHA/P may grab a go-bag and respond to the event outside of the clinic, or local people may bring the patient to the clinic via snow machine, ambulance, van, or other transportation. The CHA/P conducts an assessment and provides treatment as needed. If required, the CHA/P notifies a physician, physician's assistant, or nurse practitioner at the regional hub clinic, critical access hospital, or other facility, possibly with the use of video telemedicine tools for consultation or medical direction. Decisions are made to arrange medevac or other long-distance transport of the patient. Depending on distance and weather and how soon a medevac or other help may arrive, the CHA/P may manage the patient for periods of hours to days.

While the above describes how EMS in Alaska Native villages is intended to work, the reality is impacted by many factors. Because of shortages of CHA/Ps, some villages clinics are understaffed. Comfort level and confidence amongst CHA/Ps in relation to handling medical emergencies vary greatly. Local VPSOs and first responder groups have been difficult to acquire and maintain in many villages. Some CHA/Ps are uncomfortable with EMS roles and feel a great sense of responsibility for ensuring a positive outcome in the event an emergency intervention is needed.

CHA/Ps are vital components of Alaska Tribal Healthcare. Despite challenges, the CHA/P program is a developing healthcare delivery model that has made great strides in its 50-year history and has had a symbiotic relationship with the State of Alaska EMS program.

## Clinical Issues

According to data collected by the state, chronic disease is the leading cause of death in Alaska each year, as it is nationwide. Cancer, however, disproportionately affects Alaskans compared to national rates, as does unintentional injury, which is the third leading cause of death in Alaska.<sup>31</sup> Unintentional injury is the leading cause of death, moreover, for Alaska Native populations aged 45-70.<sup>32</sup> Disparities between

[31] See Alaska Division of Public Health. (2021). *2021 Primary Care Needs Assessment*. [https://alaskapca.org/wp-content/uploads/2021/05/SOA\\_PCO\\_NA\\_20211865-1.pdf](https://alaskapca.org/wp-content/uploads/2021/05/SOA_PCO_NA_20211865-1.pdf).

[32] Day, G., Holck, P., Strayer, H., Koller, K., Thomas, T. (2018). Disproportionately higher unintentional injury mortality among Alaska Native people, 2006-2015. *International Journal of Circumpolar Health*, 77(1). <https://dx.doi.org/10.1080%2F22423982.2017.1422671>.

Alaska Native populations and Alaska non-Native and U.S. White populations exist on a number of mortality and morbidity measurements, including life expectancy and infant mortality.<sup>33</sup>

During the course of this study, clinical issues related to mental health and substance abuse came up consistently and urgently in interviews with EMS providers statewide. Alcohol and substance abuse are linked to increased risk of suicide, violence, adverse childhood events, and trauma. EMS providers interviewed for this study told of the burden substance abuse and mental health issues place on emergency organizations and personnel. Alaska's suicide rate, which is the third highest in the nation, continues to remain high even as initiatives such as "Healthy Alaskans," the collaborative effort between the State of Alaska and the Alaska Native Tribal Health Consortium, target it for improvement yearly.<sup>34</sup>

Informants describe the devastating effects of suicide especially on small, close-knit, and remote communities, and express the need for greater support services. Without a robust mental and behavioral health system in Alaska, EMS providers not only bear the burden of caring for these populations but also lack access to supportive resources to do so sustainably.

## Clinical Quality Assurance and Physician Oversight

The quality of clinical care delivered by EMS in Alaska is difficult to determine objectively. There are few specific established measures of clinical quality, and the state's EMS data collection system is not yet regularly producing reliable clinical quality reports. However, this does not necessarily suggest that EMS patient care lacks quality. Informants for this study report that over the past two decades the establishment of Alaska's trauma care system has made significant strides in reducing transportation related injury mortality. This coordinated system of care is believed to be having an important impact on other time-critical conditions such as stroke, heart attack, and obstetrical emergencies.

While the knowledge, skill, competence, and experience of the personnel delivering EMS in Alaska likely varies widely, this study found no recurring themes from informants suggesting significant or unmet clinical quality issues. In subjectively assessing the clinical quality of EMS in Alaska, professional informants such as physicians, nurses, physician assistants, nurse practitioners, and CHA/Ps in emergency departments, critical access hospitals, and clinics generally speak highly of the clinical care provided by EMS personnel across the state. Medical directors also have high praise for the care delivered, but also say that data and clear performance measures are lacking. Some professional informants express concerns around knowledge and skill maintenance and degradation given the limited experience and low volume of patient contact some providers have. That said, most professional informants express admiration and gratitude for the care provided by EMS personnel. Over the course of this study we heard more concern about staff availability than clinical performance.

The quality of clinical care in an EMS system is typically overseen by physician medical directors and an EMS organization's internal quality programs. Quality and oversight may include: education and

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[33] Alaska Native Tribal Health Consortium. (2017). *Alaska Native Health Status Report*. [http://anthctoday.org/epicenter/publications/HealthStatusReport/AN\\_HealthStatusReport\\_FINAL2017.pdf](http://anthctoday.org/epicenter/publications/HealthStatusReport/AN_HealthStatusReport_FINAL2017.pdf).

[34] See Healthy Alaskana. (2020). *Healthy Alaskans: Alaska's health improvement plan*. <https://www.healthyalaskans.org/>.

verifying knowledge and skills, ongoing knowledge and skill maintenance, protocol development, care on scene and during transport, clinical documentation, online and offline medical control, patient care report reviews, protocol compliance, and ongoing personnel support and development. In state law, Alaska seeks to assure the quality of EMS and protect the health and safety of its residents and visitors through a variety of requirements.

The Office of EMS contracts with a state EMS physician medical director who is responsible for the “development, implementation, and evaluation of standards and guidelines for the provision of medical direction within the state's EMS system” [7 AAC 26.620]. The current state medical director is highly qualified and experienced in emergency medicine and is nationally known for leadership in emergency medical services. He is deeply engaged, concerned about, and involved in the improvement of EMS in Alaska.

Certified EMS services and medevac services in Alaska are required to have a medical director. Additionally, providers above the EMT-I level are required to have a department-approved medical director sponsor who accepts responsibility for the clinical performance of the provider. The medical director is expected to review, at least quarterly, the patient care provided by each certified or licensed medical person in their charge and oversee continuing education and recertification. Additionally, a physician medical director or their designee periodically reviews patient care reports to determine the appropriateness of treatment given. Certified EMS organizations are not required to establish quality practices or programming.

Interviews with providers outside Alaska’s urban areas consistently reveal limited involvement of the medical director and infrequent reviews of personnel clinical performance and patient care reports. While many providers we interviewed desire more medical director involvement, they also express low expectations in this area.

With no requirement that local EMS agencies establish quality assurance programming, practices vary widely. Some full-time paid services have personnel dedicated to quality assurance who perform regular chart review, ensure protocol compliance, do group run reviews, assess skills, and match education and training with discovered opportunities and needs. Many rural volunteer services have no structured or formal means of reviewing quality. The operational demands of simply responding in rural areas with a certified crew often dwarf clinical quality concerns. This is exacerbated by a dearth of guidance in establishing quality practices that actually monitor and improve clinical care. The disparity in quality practices matches the ongoing struggle of EMS throughout the nation to establish appropriate quality measures and practices beyond chart reviews, response times, and skill performance.

Medical direction provided online or over a radio or cell phone is generally reported to be rare because of connectivity challenges and limitations resulting from geography. EMS services clearly rely heavily on their protocols and standing orders. That said, in remote areas and village clinics staffed by CHA/Ps and other medical personnel, online medical advice is an integral part of EMS care. Provider informants highly value the ability to connect with a physician for advice, guidance, and support when dealing with difficult clinical issues and extended wait times for patient transport.

While not required by law, the state’s seven EMS Regions all have medical directors. These are

important resources to some of the EMS Region directors. However, the specific role and empowerment of regional medical directors is not clear, and EMS Region directors report varying degrees of involvement.

## Data and Data Collection in Alaska

For several decades EMS leaders, groups, and governments have recognized a need for reliable, valid, and accurate information about EMS systems. This need has resulted in a variety of initiatives and concerted efforts to gather useful data. Much of the focus on data collection has been on the clinical side of EMS and not on the operational or business sides. Like many states, Alaska has embarked on developing a means to collect data from electronically submitted patient care reports (PCRs).

Twenty years ago, NHTSA launched a national effort to collect and aggregate EMS patient care data called the National EMS Information System (NEMSIS). This system was designed to help determine the effectiveness of EMS systems and EMS patient care; help public officials and the general public better understand EMS; identify national trends in patient care and policy; facilitate benchmarking; decrease clinical errors; establish national EMS outcome measures; and assist with the business structure and management of EMS. The NEMSIS system sets a standard for the essential data that should be collected, allows the transfer of data between systems, and aggregates the data with the goal of producing a broad understanding of EMS.<sup>35</sup>

An EMS data repository program has been established in Alaska consistent with the NEMSIS data elements. The system is called the Alaska Uniform Response Online Reporting Access (AURORA). It requires the electronic submission of PCRs by local EMS agencies. Today the Office of EMS reports approximately 90% of State-certified agencies are submitting data through this system. The Office of EMS believes it is capturing nearly 95% of all EMS transports in Alaska. In 2020 more than 66,000 patient care reports were submitted and added to the national database.

Informants for this study are hopeful AURORA will provide useful information about EMS in Alaska and help improve understanding. The EMS Regions have been compelled to establish regional data managers who are tasked with providing technical assistance and support to local services; providing aggregated EMS data to local stakeholders; developing reports and analyzing relevant data to identify trends and evaluate patient outcomes; helping implement strategies for promoting quality assurance; and improving EMS healthcare delivery systems in consultation with appropriate stakeholders.

Informants also express concern that the AURORA system is seeking to collect in-depth patient care data when basic data about EMS in Alaska remains elusive. This study found that reliable basic data about EMS including number of calls, active services, number of providers, response chute time, etc. is difficult to obtain. Additionally, the quality of much of the available data appears to be poor.

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[35] Mears, G., Ornato, J.P., Dawson, D. (2002). Emergency medical services information systems and a future EMS national database. *Prehospital Emergency Care*, 6(2),123-130.

# EMS REGION DESCRIPTIONS

## The Interior Region

### EMS Overview

The non-profit Interior Region EMS Council (IREMS) covers EMS in the vast interior region of Alaska. IREMS operates with five full-time employees headquartered in Fairbanks. One part-time IREMS employee is located in the sub-regional hub community of Tok, 202 miles southeast of Fairbanks. The Tok sub-region coordinator is responsible for supporting the equipment, supplies, and training needs of EMS in Tok's eight proximate communities.

Currently there are 27 ambulance services in the interior, 18 of which are Alaska State-certified. In total, these services respond to over 7,000 emergency calls a year. The interior is served by Fairbanks Memorial Hospital, a 152-bed facility and Level IV trauma center. Patients from the interior may also be transported to Level II trauma centers in Anchorage if needed.

There are seven separate ambulance agencies in the Fairbanks area, reflecting the historical development of EMS with local fire departments. Although competition for human and financial resources is an ongoing challenge for these services, the system is generally sustainable, viable, and adequately resourced.

Emergency response in villages in the interior is sometimes led by Community Health Aides/Practitioners (CHA/Ps). A CHA/P's principal job, however, is to provide primary care in the village clinic. CHA/Ps are typically trained to the ETT or EMT-I level.

The Interior Region is also home to military and industrial EMS. The Trans-Alaska Pipeline (TAPS) Pump Stations have EMS capability and can respond to emergencies along the highway system. Fort Greely Fire and Emergency Services, located south of Fairbanks on the Richardson Highway, provides mutual aid to Delta Medical Transport.

### Setting

At nearly the size of Texas, the Interior Region is home to the tallest mountains in the United States as well as some of the longest rivers. Denali, or Mount McKinley, is North America's highest peak at 20,310 feet.

The climate of the interior is known for its temperature variations. Temperatures in Fairbanks, for example, can occasionally reach 100°F in the summer and tend to stay below 0°F in winter. Fairbanks has almost 24 hours of daylight at the peak of summer, and as little as 3 ½ hours of daylight during the winter. The interior is also known for its beautiful display of northern lights, best viewed from mid-August through late-April.

The Trans-Alaska Pipeline, which transports crude oil from the North Slope to Valdez, cuts through the interior. So does Alaska's largest and busiest highway, the George Parks Highway, which links Fairbanks to Anchorage, 360 miles to the south. There are four military installations located in the region: Fort Wainwright in Fairbanks, Eielson Air Force Base near the City of North Pole, the National Guard's Clear Air Force Station at Anderson, and Fort Greely near Delta Junction. Doyon Limited is the Alaska Native Regional Corporation in the interior, and



Tok Area EMS, for example, provides approximately 300-350 emergency responses a year, including around 180 medevacs. With an active ambulance staff of three, Tok Area EMS is, as one informant said, “just one health issue away from not existing.” Tok Area EMS is an example of the fragility of rural EMS in Alaska, where coverage for large portions of the state is being precariously propped up by a few.

In addition to workforce and funding challenges, EMS in Native villages in the interior encounter communication difficulties due to their remoteness and small populations. Cellphones, for example, cannot be used in many villages that are located off the highway system. Instead, marine radio and telephone by landline are used to coordinate and provide EMS. Internet access in villages is also often limited.

## The North Slope Region

### EMS Overview

Emergency Medical Services in the North Slope Region are provided by approximately 35-40 paid employees of the North Slope Borough Fire Department distributed between the hub city of Utqiagvik (Barrow) and seven other communities. An employee of the North Slope Borough acts as Regional Coordinator/Director of EMS, headquartered in Utqiagvik. The North Slope Borough Fire Department provides approximately 2,500 ground responses per year and around 350 medevacs.

The North Slope Borough Fire Department is Alaska State-certified at the Advanced Life Support (ALS) level. Eight full-time paramedics work 12-hour shifts, two weeks on, two weeks off. These medics serve as flight crew when a medevac to one of the seven North Slope villages is needed, or when a patient must be transported to Fairbanks, Anchorage, Juneau, or Seattle. Patients treated in Utqiagvik are transported to Samuel Simmonds Memorial Hospital (SSMH), a critical access hospital and Level IV trauma center. Critical or life-threatening problems requiring specialty care are stabilized at SSMH and then transported to facilities with more advanced capabilities.

The North Slope Borough Fire Department has four aircraft (two fixed-wing aircraft, plus two helicopters) used for medevac services. In addition to EMS provided by the North Slope Borough Fire Department, EMS in Prudhoe Bay is provided by the oil companies operating there, which form agreements with the local health clinics. Medevac services are provided by a contracted air medical provider. The North Slope Borough is unique in Alaska in that it oversees the CHA/P program, a role typically filled by Tribal Health Organizations in other rural parts of the state.<sup>37</sup> When an emergency call occurs in a village, patients are transported to the village clinic where a CHA/P evaluates the patient. Except for Point Hope, where the clinic is run by Maniilaq Association, and

Fig. 3: The North Slope Region

Source: ANCSA Regional Association. <https://ancsaregional.com/census/arctic-slope-region/>

[37] See McAninch, J. (2012, July). *North Slope Borough, Department of Health and Social Services, Baseline Community Health Analysis Report*. <http://www.north-slope.org/departments/health-social-services/health-impact-assessment/baseline-community-health-analysis-report>.

Anaktuvuk Pass, where the clinic is overseen by Tanana Chiefs Conference, CHA/Ps in the North Slope consult physicians at SSMH in Utqiagvik to authorize medevac transportation of patients when necessary.

Continuing education is very difficult in the North Slope due to the difficulty of sending instructors to the villages. Several villages are more than 200 or 300 miles away from Utqiagvik. Access to education is improving, however, as ongoing training becomes accessible over the Internet.

## Setting

The North Slope Region is located on the northern slope of the Brooks Range, spanning approximately 89,000 square miles from the Chukchi Sea to the west to the Beaufort Sea to the east. The region's coastal area has one of the coldest climates in Alaska, with temperatures ranging from 60°F in the summer to -40°F in the winter. Utqiagvik (Barrow) is the United States' northernmost municipality and is also the regional hub and seat of government, with a population just under 5,000. In addition to Utqiagvik, the region includes seven villages with populations ranging from approximately 250 to 700. In total there are around 10,000 permanent residents in the North Slope Borough.

The Inupiat have called the North Slope home for more than 10,000 years. Subsistence is an important part of cultural life for many in the region, with 95% of Inupiat households reporting use of subsistence foods during 2018.<sup>38</sup>

The North Slope region includes the Prudhoe Bay Oil Field, the largest oil field in North America, as well as the federally owned National Petroleum Reserve in Alaska (NPR). The Trans-Alaska Pipeline transfers oil drilled in Prudhoe Bay south to Valdez on the coast of the Pacific Ocean. The only road to the region – the “Haul Road” – runs parallel to the Pipeline from Fairbanks to Prudhoe Bay. Other than that, transportation to and between communities in the North Slope is by air.

The North Slope's oil and natural gas industries are a key part of Alaska's economy, and events in the North Slope have profoundly affected the state's history. The discovery of oil in the region catalyzed the 1971 Alaska Native Claims Settlement Act (ANCSA), as the Trans-Alaska Pipeline could not be built before settling land claims.

## Leadership

EMS in the North Slope Region is overseen by the North Slope Borough Fire Department, which appoints an EMS Coordinator who also serves as the EMS Region Director.

## Finance

The North Slope Region enjoys ample financial resources thanks to the region's oil reserves and oil and natural gas industries. Informants for this study describe the region as very fortunate. As one EMS leader said, “We have EMS resources that aren't typical in other parts of the state.”

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[38] *North Slope Borough 2019 Economic Profile and Census Report*. (2020, September). Available on the North Slope Borough website. [http://www.north-slope.org/assets/images/uploads/2019\\_NSB-EconomicProfileAndCensusReport\\_Final.pdf](http://www.north-slope.org/assets/images/uploads/2019_NSB-EconomicProfileAndCensusReport_Final.pdf).

Like Alaska's other six EMS Regions, the North Slope Region receives an annual grant from the State of Alaska. It has also utilized Code Blue funds to aid in equipping its villages. In addition, the region has received some funding grants from the National Petroleum Reserve in Alaska (NPRA).

### **Challenges and Opportunities**

The North Slope Borough Fire Department has a vision for increasing EMT numbers in the region's villages and for attracting and keeping more of its volunteers. The region's centralized leadership and substantial financial resources are advantages in working toward these goals.

The region's biggest challenges relate to training and volunteerism. Providing initial and continuing training is difficult due to long distances, the availability of instructors, loss of interest, and internet connectivity. Maintaining certification once it is obtained is proving to be a challenge. In addition, EMS in the North Slope relies on local volunteers. Like other locations across Alaska and the nation, the North Slope is struggling to inspire and keep a new generation of volunteers to staff its services.

## **The Northwest Arctic Region**

### **EMS Overview**

Emergency Medical Services in the Northwest Arctic Region are provided by a variety of trained individuals, including career and volunteer fire department personnel in the hub city of Kotzebue, and CHA/Ps and ad hoc first responder groups in the region's 10 villages. The Tribal Health Organization, Maniilaq Association, employs an EMS Program Manager who is responsible for supporting EMS in the region. Call volume for the region is approximately 3,000 per year. Quality assurance is largely informal, and calls are reviewed as needed.

The City of Kotzebue Fire Department provides basic and advanced life support for a population of a little over 3,000, using a full-time career staff of ten plus around two to five active volunteers. Call volume is approximately 1,000 calls per year. Providers interviewed for the study said the top clinical issues seen by the department are alcohol-related, followed by trauma, respiratory issues, seizures, and finally cardiac problems.

Outside of Kotzebue, CHA/Ps lead EMS. CHA/Ps are responsible for providing emergency medical care in the villages and are typically trained to the ETT level, as is provided by Maniilaq Association. Training above the ETT level is not paid for by Maniilaq Association and is an out-of-pocket expense for CHA/Ps. CHA/Ps in villages consult physicians in Kotzebue to activate medevac services when necessary. The private air medical company Guardian Flight transports patients between the villages and Kotzebue, with the furthest village approximately 200 miles away. The regional hospital in Kotzebue is the Maniilaq Health Center, a 17-bed inpatient, 5-bed emergency department critical access hospital.

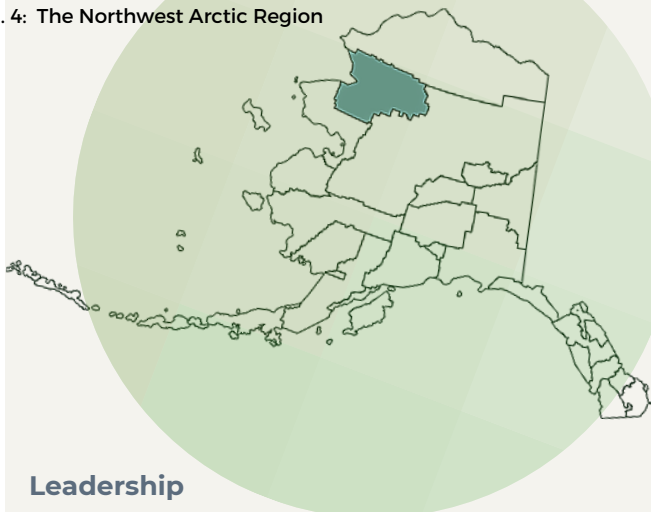
In addition to EMS in Kotzebue and in the villages, the privately-owned Red Dog Mine, located approximately 80 miles north of Kotzebue, has an emergency services department. The department operates independently and does not report to or communicate with the EMS Region Program Manager.

## Setting

The Northwest Arctic Region covers approximately 36,000 square miles in the northwest of Alaska. The Northwest Arctic Borough (NAB) is the second largest borough in the state, and Maniilaq Association is the region's Tribal Healthcare Organization. The approximately 8,000 residents of the region are divided between the main hub city of Kotzebue and among 10 villages with populations ranging from approximately 150 to 850. There is one State-certified ambulance service in the region, operated by the Kotzebue Fire Department.

The region experiences long, cold winters and mild summers. Temperatures range from an average of -10°F in February to around 60°F in July. The area has been experiencing the effects of climate change in recent years, with warmer temperatures challenging traditional subsistence activities that remain an important part of people's lifestyles, especially in the villages. Many people in the region engage throughout the year in harvesting caribou, seal, fish, moose, berries, and plants.

Fig. 4: The Northwest Arctic Region



The Inupiat people have occupied the Northwest Arctic region for at least 10,000 years. Today, the region's population is 85% Alaska Native or part Native, primarily Inupiat. NANA is the Alaska Native Corporation in the region, formed as a result of the Alaska Native Claims Settlement Act (ANCSA) of 1971. NANA is owned by more than 14,500 Inupiat shareholders.

Villages in the region are not connected to one another by roads, but the Kobuk River is plowed when frozen during the winter, allowing for some land travel between two of the villages and Kotzebue. Kotzebue Sound serves as shipping center for the region during the three to five months in the summer when it is ice-free.

## Leadership

An EMS Program Manager employed by Maniilaq Association is responsible for supporting EMS in the region. Duties include administering the Code Blue grant, overseeing EMS-related needs of the villages, providing training, and coordinating and participating in disaster planning. There is a close and collaborative relationship between the EMS Program Manager and the Kotzebue Fire Department, and cooperation in training and disaster planning occurs regularly.

Leadership in the region's villages is more diffuse. CHA/Ps lead local emergency response but are themselves overseen by advanced providers in Kotzebue. Interviews with key informants from the region indicate that it is not uncommon for a CHA/P in a village and the superintending provider in Kotzebue to disagree about a patient assessment and whether or not the patient needs to be flown out of the village to a higher level of care. In addition, it is unclear as to who is in charge of the development, continuance, and evaluation of emergency medical services in the villages. Training, for instance, is not provided or supported in a systematic fashion but is instead offered sporadically or in an ad hoc manner.

## Finance

It is impossible to estimate the cost and value of EMS in the Northwest Arctic Region based on available data

and information. The Kotzebue Fire Department is funded by the Northwest Arctic Borough, the City of Kotzebue, and Maniilaq Association. Village EMS is funded by Maniilaq Association. In addition, regional emergency medical services are funded through the State EMS Region grant, Code Blue grants, and transport revenues.

### Challenges and Opportunities

Within the last few years, a serious fire in Kotzebue killed one person and burnt a long-time local business to the ground. In interviews, key informants for this study mentioned the fire frequently and noted the widespread community support for Kotzebue Fire Department during and after the incident. The incident demonstrates the tight-knit community and sense of interdependence that sustain EMS in the remote Northwest Arctic region of Alaska. Community spirit and a deep sense of interconnectedness are assets for EMS in the region and provide foundations for engagement and sustainability.

Challenges to EMS in the region come in a variety of forms, including the toll the work takes on providers' wellbeing. In Kotzebue, responders need greater support for their roles. "We need resources for processing traumatic events and calls," one informant states. Informants say the number of calls involving violence, particularly sexual violence, is high in the region. Responders also explain the added pressures of living in a close-knit community and responding to calls involving friends, acquaintances, and relatives.

The same need for psychological and emotional support applies to CHA/Ps leading emergency response in the villages. CHA/Ps we spoke with report significant stress from being on-call for emergencies after clinic hours. Unlike some other regions, there is no nurse triage line in the Northwest Arctic Region to screen afterhours emergency calls, and so CHA/Ps take all incoming calls, whether truly emergent or not.

In addition, a CHA/P's role in responding to emergency calls in the villages can raise concerns for personal safety. One CHA/P we spoke with noted, "Before we had the VPO (Village Police Officer), we got a lot of cop calls – domestic violence, drug problems... We saw overdoses." The work of responding to emergency calls potentially exposes CHA/Ps to unstable and violent situations.

## The Norton Sound Region

### EMS Overview

Emergency Medical Services in the Norton Sound Region are provided by approximately 60 trained individuals distributed across the region's 15 villages and the city of Nome. The non-profit Norton Sound Health Corporation (NSHC) employs a Director of EMS to coordinate the regional system, which includes one city-operated, volunteer ambulance department in Nome; NSHC's air and ground EMS, also based in Nome; and Community Health Aides/Practitioners (CHA/Ps) in the region's villages. In total, the region sees around 1,000 emergency calls per year for a population of approximately 10,000.

Within Nome the 9-1-1 system is used to dispatch EMS. Nome Volunteer Ambulance Department (NVAD) provides response with a staff of 1.5 full-time employees and approximately 10 active volunteers. NVAD provides mostly Basic Support (BLS) with occasional Advanced Life Support (ALS). NVAD has a medical director, and calls are reviewed as needed. There is no formal system for reviewing calls, and as is true throughout the region, quality assurance is largely ad hoc. According to providers interviewed for this study, leading clinical issues are those associated with alcohol use. NVAD's call volume is around 700 per year.

In villages in the Norton Sound Region, emergency response is initiated by a variety of means, including VHF radio, telephone, and in-person summons. The village of Unalakleet has its own 9-1-1 system and its own volunteer fire department that responds to emergencies. Typically, however, when an emergency arises in a village in the Norton Sound Region, the CHA/P or CHA/Ps on-call respond. The CHA/P's role leading emergency response includes: rallying the first responder group or other willing and able individuals in the village to help in the response; responding to the emergency scene; packaging and transporting the patient to the village clinic; assessing and stabilizing the patient, sometimes with input and guidance from either an onsite advanced practitioner or an emergency physician in Nome; arranging air medical transportation to a higher level of care in Nome or Anchorage, if needed; and caring for the patient until air medical services arrive.

Fig. 5: The Norton Sound Region



Source: Robler, S.K., et al. (2020). *Hearing Norton Sound. Research Involvement and Engagement*, 6(67). <https://doi.org/10.1186/s40900-020-00235-0>

The Norton Sound Region is in the western part of Alaska covering approximately 23,000 square miles. The region experiences cold winters and cool summers accompanied by seasonal rains. The Bering Sea is ice-free for approximately four months of the year when supplies can be brought in primarily through the city of Nome. The city of Nome is the regional hub, with a population just under 4,000. In addition to Nome, the region includes sixteen villages ranging in size from approximately 150 to 750 residents. In total there are about 10,000 people in the region spread over an area around the size of Ohio.

The population of Nome is split between Alaska Natives and non-Natives. Villages are predominantly Native, and many residents follow a traditional subsistence lifestyle. Village elders are the cultural and spiritual

NSHC's air ambulance contracts with Bering Air, headquartered in Nome, for its aircraft and pilots. NSHC's EMS has a ground/flight staff of 10 and transports patients between the airport and Norton Sound Regional Hospital, an 18-bed critical access hospital and Level IV trauma center in Nome and staffs all flights. Call volume from the villages is approximately 300-400 calls per year. The furthest village from Nome is Gambell, at 208 miles to the southwest; the nearest is the village of Teller, which is 72 miles away and the only village connected to Nome by road.

## Setting

The Norton Sound Region is in the western part of Alaska covering approximately 23,000 square miles. The region experiences cold winters and cool summers accompanied by seasonal rains. The Bering Sea is ice-free for approximately four months of the

leaders of these communities, and traditional cultural practices and efforts to preserve Native languages are important throughout the region. There are three groups of indigenous peoples in the Norton Sound Region including the Inupiat, Central Yup'ik, and Siberian Yup'ik. These groups have occupied the region for approximately 10,000 years.

In addition to its strong indigenous heritage, the region has also been shaped by Russian and Euro-American activity including trade in furs, missionary work, and gold mining. Gold mining continues in the region, although today activity is trending downward. Nome is also the end point of the famous Iditarod Sled Dog Race held annually in March.

## **Leadership**

Leadership for EMS in the Norton Sound Region is provided by the Director of EMS employed by the Norton Sound Health Corporation. In general, the Director of EMS is responsible for keeping records, administering the Code Blue grant, and managing funding for the introduction of protocols, data collection, and training. The Director position does not have extensive staffing and is thus limited in what it can do.

In the villages, leadership for EMS is diffuse and unclear. CHA/Ps lead local emergency response but are themselves aided, guided, and superintended by advanced providers such as nurse practitioners, physician assistants, and physicians. In addition, there is significant ambiguity as to who is in charge of the development, continuance, and evaluation of emergency medicine in the villages. Training, for instance, is not provided or supported in a systematic fashion but is instead offered sporadically or in an ad hoc manner.

## **Finance**

It is impossible to fully estimate the cost and value of EMS in the Norton Sound Region based on available data and information. The Nome Volunteer Ambulance Department is funded by the City of Nome and subsidized by volunteer labor. EMS in the villages is funded by Norton Sound Health Corporation and subsidized by volunteers. In addition, the Norton Sound Region's needs are funded through the State EMS Region grant, Code Blue grants, and transport revenues.

## **Challenges and Opportunities**

Both challenges and opportunities exist for EMS in the Norton Sound Region. While geographically the region is vast, it is quite small in terms of population. In the case of St. Michael and Stebbins, villages are located side by side. Village members' sense of place, and their concern for and interest in their communities, are assets for EMS in the region. They provide the foundation for engagement and support.

In addition to CHA/Ps, most village clinics in the Norton Sound Region have a nurse practitioner or physician assistant on staff at least part of the time. Health aides are also supported by a recently instituted nurse triage line which screens emergency calls outside of clinic hours and helps reduce CHA/Ps' on-call pressures and workload. According to informants interviewed for this study, the nurse triage line has reduced afterhours calls requiring CHA/P assistance by half.

Even with strategies and structures to support CHA/Ps, the work is demanding. There is an opportunity going

forward to better or more fully prepare CHA/Ps for the emotional and psychological demands of the job, and to better support them around these issues.

NVAD faces significant funding and workforce challenges. Recruitment and retention of volunteers continues to be difficult, and funding has not been available for more paid positions. The department, like many across the nation, is grappling with declining volunteerism. Its volunteer model is also strained by the frequency of alcohol- and behavioral health-related calls in its service area.

NVAD is not alone in its staffing concerns; interview data suggest NSHC's air ambulance service experiences some challenges recruiting and retaining its pilots. In the villages, too, CHA/P turnover appears to be a significant concern, as is training and developing Search and Rescue groups or other human resources necessary to sustain EMS in the community.

Training throughout the region is a challenge and, according to one key informant for the study, has not been pursued as vigorously as it once was. "We used to be in the villages at least once a year for an extended period to conduct trainings. These days we're lucky if we get there two or three days a year to do some CPR and first aid." The same informant notes that EMS in the villages is "the biggest concern I have. The village Search and Rescue teams are on the back burner for everyone. We can't always bring them here to get training, and we can't always go to them."

In general, there is opportunity to build a more coordinated plan for the development of EMS in the Norton Sound Region. There is opportunity to develop and promote a vision for EMS, and to have the community involvement, relationships, conversations, and necessary human and financial resources to execute it.

## Southeast Region

### EMS Overview

Emergency Medical Services for the approximately 74,000 residents of the Southeast Region are provided by 16 State-certified ambulance services and approximately 20 other uncertified emergency response groups that may or may not transport patients. The non-profit Southeast Region EMS Council (SEREMS) supports and assists services in the region. With a staff of six, SEREMS helps services obtain training, purchase vehicles and equipment through the Code Blue grant program, and access other resources and needed information.

The provision of EMS in the Southeast Region must overcome major challenges related to weather, transportation, and communication. There are few road systems in the region, with services existing on islands and heavily dependent on air transportation. While coordination between services is rare, where it has occurred the results have been positive. Services on Prince of Wales Island, for example, engage in systems

building and collaboration, and their efforts are increasing efficiency and sustainability.

The region sees approximately 5,000 calls per year. Transport destinations include Bartlett Regional Hospital in Juneau; Ketchikan General (PeaceHealth Ketchikan Medical Center); Mt. Edgecumbe Medical Center in Sitka; Petersburg General; and Wrangell Medical Center. Emergent patients are also flown to Level II trauma centers in Anchorage, 600 air miles away. The U.S. Coast Guard and Guardian Flight provide a majority of the air medical services in the region.

## Setting

The Southeast Region encompasses an area known as the Alaska Panhandle, a mountainous archipelago stretching between British Columbia and the Pacific Ocean. Occupying approximately 35,000 square miles, the Southeast Region includes the cities of Juneau, Ketchikan, Sitka, Haines, Wrangell, Petersburg, and Skagway.

The Southeast Region includes Glacier Bay National Park, much of the Tongass National Forest (the largest national forest in the U.S.), and Alaska's famous "Inner Passage," a popular cruise ship destination. The Southeast Region also includes the Annette Islands Reserve of the Metlakatla Indian Community.

The climate in Alaska's capital, Juneau, and through much of the Southeast, is mild and rainy, with some areas receiving more than 150 inches of rain per year. The northern section of the region, however, receives a great deal of snow.

The city of Ketchikan, located in the Tongass, is headquarters to the Alaska Marine Highway System (AMHS), the State of Alaska's ferry service begun over 50 years ago to provide marine transportation to the state's coastal communities. The AMHS is part of the National Highway System and receives federal highway funding. It is also the only marine route recognized as a National Scenic Byway and All-American Road.

Fig. 6: The Southeast Region



Source: Alaska Dept. of Fish and Game, Division of Subsistence.

The Southeast region of Alaska has a deep and rich history. First inhabited by the Tlingit, it is also home to other Alaska Native groups such as the Haida and Tsimshian. The city of Klawock, on Prince of Wales Island, houses a totem park featuring the largest collection of Haida and Tlingit authentic totem poles in Alaska.

Local government, mining, fishing, logging, tourism, healthcare, and education are significant parts of the regional economy. Fishing is an important industry with seasonal patterns that support local communities. Juneau's economy is driven by government jobs, but like many other areas in the Southeast the city also sees some seasonal fluctuation in its economy from the travel and hospitality industries, which have recently suffered due to

the COVID-19 pandemic.<sup>39</sup>

Sealaska is the Alaska Native Corporation in Southeast Alaska, based in Juneau. The corporation, created under the Alaska Native Claims Settlement Act (ANCSA) of 1971, is owned by more than 23,000 Tlingit, Haida, and Tsimshian shareholders. Sealaska is the largest private landowner in the region with more than 362,000 acres of land.<sup>40</sup> The non-profit Southeast Alaska Regional Health Consortium (SEARHC) serves the health needs of the Southeast and since 1976 has managed the Community Health Aides Program in the region.<sup>41</sup>

### Leadership

Leadership of EMS in the Southeast is extremely local. As mentioned above, SEREMS plays a main role in assisting and facilitating EMS in the region, but true leadership comes from local individuals who recognize a need and have the vision and perseverance to provide EMS in their communities. There are examples of effective leadership in the Southeast, although the region, like many others in the state, lacks overall leadership and coordination.

### Finance

EMS in the Southeast is financed by resources including volunteer labor, Code Blue grants, the State EMS Region grant, local taxes, and transport revenues where they are collected.

### Challenges and Opportunities

The Southeast faces major challenges due to its geography. Communities are dependent on air and water transportation, and road systems are few and far between. The state's recent budget cuts to the Alaska Marine Highway System (AMHS) have hit the region hard. Informants for this study say the AMHS is a critical resource for communities in the Southeast that has systematically been stripped away. In terms of healthcare, cutbacks to the AMHS impede not only the emergency transportation of patients but also people's access to routine medical care and preventive treatment that in the long run reduces use of the region's emergency system.

EMS in the Southeast is also limited by communications. The urban areas of Juneau, Sitka, and Ketchikan are the exceptions, with a combination of paid and volunteer services providing EMS, using the 9-1-1 system, and transporting patients much like urban services in the lower 48. Outside the urban areas, however, the 9-1-1 system is unreliable. Services are summonsed in a variety of ways including marine radio and 7-digit phone number.

Despite infrastructure challenges, the Southeast is rich in opportunity. Collaboration and coordination are already occurring in some places with success. The opportunity is to support and increase these efforts through the provision of leadership and other vital resources.

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[39] Rain Coast Data. (2020, September). *Southeast Alaska by the numbers*. <https://www.seconference.org/sites/default/files/Southeast%20Alaska%20by%20the%20Numbers%202020.pdf>.

[40] Sealaska. (2021). <https://www.sealaska.com/>.

[41] Southeast Alaska Regional Health Consortium (SEARHC). (2021). *Our story*. <https://searhc.org/our-story/>.

## Southern Region

### EMS Overview

Emergency Medical Services in the Southern Region are a study in contrasts. In total there are 30 State-certified ambulance services as well as over 50 other emergency response groups active in the region. Services range from the urban EMS departments of the Anchorage bowl to first responder and informal EMS in the region's rural villages. The variety of EMS in the region illustrates the complexity of Alaska and highlights the many contrasts that characterize the state.

The non-profit Southern Region EMS Council (SREMSC) provides assistance and resources for EMS in the region. SREMSC contracts with up to seven sub-regional coordinators and is heavily reliant on these for outreach, communication, and relationship-building with individual services. In the absence of sub-regional coordinators, SREMSC has little communication with or knowledge about local EMS in the sub-regions. With a staff of 9 and a medical director, SREMSC is not resourced or structured to provide more than distant guidance to individual EMS organizations across its vast area.

In the urban areas of Anchorage and the Mat-Su Valley, the provision of EMS looks similar to other urban areas in the United States. The Anchorage Fire Department responds to some 23,000 calls a year with 13 ambulances and a total of 326 firefighters/EMTs. Mat-Su Borough EMS responds to approximately 10,000 calls a year and has a full-time, paid staff of 75. The department has seven ambulances, and its administrative offices are in Palmer.

Outside of urban areas, EMS is provided by a variety of services including certified and uncertified ambulance services, CHA/Ps in villages, and first responder groups if and where available.

### Setting

The Southern Region covers an area of 192,369 square miles, larger than the state of California. The region extends more than 2,000 miles across, from Cordova in the east to Attu Island at the tip of the Aleutians in the west. It includes Alaska's largest city, Anchorage, as well as the cities of Kenai, Valdez, Homer, and Seward.

The Southern Region is home to most of Alaska's population, with the majority of residents occupying the Anchorage area. Anchorage is situated at the base of the Chugach Mountains, along Cook Inlet. It has the busiest airports and seaport in the state and is headquarters for the largest businesses, including Alaska Native Corporations, healthcare providers, and oil and transportation companies.

Besides Anchorage, the Southern Region is comprised of seven other sub-regions: the Aleutian/Pribilof Islands; Bristol Bay; Copper River; Kenai Peninsula; Kodiak Island Borough; Matanuska-Susitna Borough; and Prince William Sound. While Anchorage is a major population center and important urban hub, two-thirds of the Southern Region is comprised of very remote, small villages and communities that do not have access to the rest of the state by road.

The Southern Region has a variety of landforms including mountains, lakes, glaciers, fjords, salmon streams,

and beaches. The climate of southcentral Alaska is mild, especially when compared to winters in the northern part of the state. The ocean influences the weather, moderating temperatures and producing a rainy coastal climate. The Alaska Range to the north blocks the region from cold air from the interior. The area is well known for its abundant fishing and wildlife, access to many of Alaska's national parks and glaciers, and the beauty of its varied landscape.

Apart from Anchorage and the Mat-Su Valley, communities across the Southern area of Alaska rely heavily on subsistence practices. A number of Alaska Native Corporations are included in the region, including Aleut, Koniag, Bristol Bay, Cook Inlet, and Chugach. Likewise, a mixture of Alaska Native non-profit corporations delivers health and social services in the region. These include Bristol Bay Area Health Corporation (BBAHC); Kodiak Area Native Association (KANA); Eastern Aleutian Tribes; Chugachmiuk; Aleutian Pribilof Islands Association; Copper River Native Association; Southcentral Foundation; Mount Sanford Tribal Consortium; and Seldovia Village Tribe. Alaska Native peoples living in Southern Alaska include the Athabascan, Aleut, Yupik, and Alutiiq peoples.

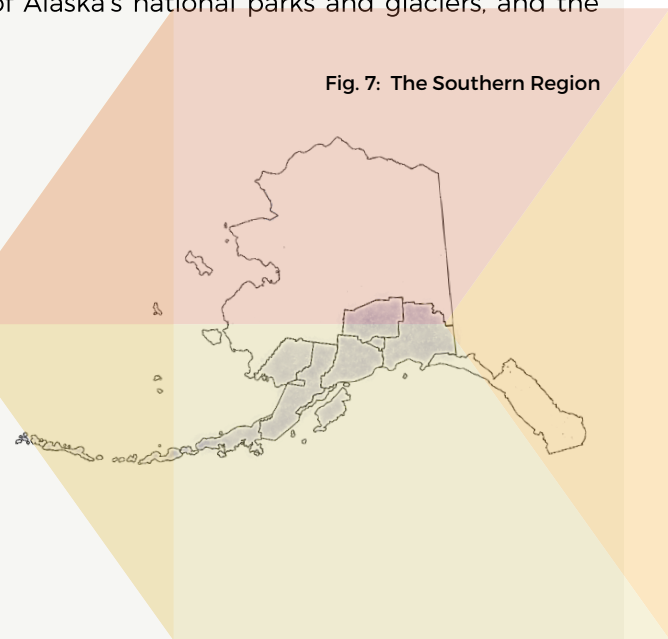


Fig. 7: The Southern Region

### Leadership

Support for EMS in the Southern Region comes through SREMSC and its 20-person board of directors representing varying facets of EMS from across the region and liaisons with the Alaska Native Tribal Health Consortium and the Alaska State Troopers. SREMSC is staffed by an Executive Director with eight employees, a medical director, and eight sub-regional EMS coordinators.

Because EMS throughout Alaska is a local function, leadership of local agencies in the Southern Region is determined locally. The preparation, experience, effectiveness, and ability of local leaders vary widely and is dependent on agency size, staffing structure, the availability of leadership talent, and how leaders are selected. The Mat-Su Borough EMS department is an example of strong, proactive local leadership in the Southern Region. Leadership there has increased capacity and grown the borough-wide ALS department impressively in recent years – this in spite of the fact that broad coordination and overarching leadership in the region are absent.

### Finance

EMS in the Southern Region is financed by a combination of municipal funds and local taxes, the State EMS Region grant, Code Blue grants, transport revenues where they are collected, training and education revenues and volunteer labor.

### Opportunities and Challenges

With ongoing improvements in connectivity provided by the Internet and other technologies, as well as a

strengthening of expectations and roles of the EMS sub-regions, the Southern Region has opportunities to improve contact with local agencies, better track local needs and issues, and improve distance learning. Additionally, there are opportunities to continue to support and value the CHA/P program and its integration with EMS in the region's Native villages.

The EMS challenges in the Southern Region remain significant. Because of the region's vast distances, many remote communities and villages, and limited transportation, support for EMS is difficult and expensive. Informants for this study express concern about local EMS sustainability, services closing without announcement, the need to help local providers access education, and collecting reliable data about EMS activity. Underlying many of these concerns, informants say, is the need for more EMS funding in the region.

## Yukon-Kuskokwim Region

### EMS Overview

Emergency Medical Services in the Yukon-Kuskokwim Region of Alaska are provided by approximately 60 trained individuals distributed across 58 villages and the hub city of Bethel. The non-profit Yukon-Kuskokwim Health Corporation (YKHC) employs an EMS Manager to coordinate the regional system, which includes one city-operated, combination paid/volunteer fire department in Bethel; the air ambulance service, LifeMed Alaska, which is partially owned by YKHC; and CHA/Ps in village clinics. In total, the Yukon-Kuskokwim Region sees around 2,000 to 2,500 emergency calls per year for a population of approximately 26,000.

In Bethel, EMS is accessed by calling 9-1-1, and response is provided 24/7 by the City of Bethel Fire Department. With a career staff of eight, including a Fire Chief, Fire Captain, and six Firefighter/EMTs. Bethel Fire Department provides Advanced Life Support (ALS) and bills for services. The Department responds to approximately 1,500 emergency calls per year. Recruitment and retention are major challenges.

In the villages, emergency response is led by CHA/Ps in clinics. EMS is accessed by calling the clinic, and when required, an air medical team based in Bethel is dispatched to respond via fixed-wing aircraft. Five sub-regional clinics have local responders and designated ambulance transport vehicles to bring patients to the clinics. Other villages may use personal vehicles that are not ambulances.

### Setting

The Yukon-Kuskokwim Region comprises 75,000 square miles in the southwest of Alaska. The region has traditionally been home to the Yup'ik, Cup'ik, and Athabascan peoples. Today, Alaska Natives make up 82% of the region's population.<sup>40</sup>

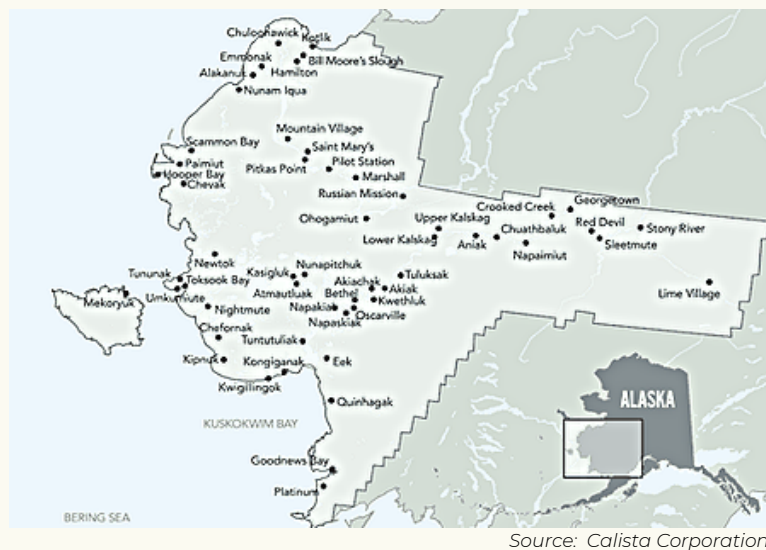
[40] Yukon-Kuskokwim Health Corporation. (2018). *About the YK delta*. <https://www.ykhc.org/story/about-yk/>.

The Yukon-Kuskokwim Delta is one of the largest river deltas in the world. The delta consists of lowlands covered in tundra and dotted by numerous lakes and rivers. Much of the region is protected as part of the 19 million acre Yukon Delta National Wildlife Refuge, the second largest National Wildlife Refuge in the country. The region is rich in animal and plant life supporting residents' subsistence lifestyles.<sup>41</sup>

The region's more than 23,000 residents live among 58 villages not connected by road. Bethel is the regional hub, with a population of around 7,000. The larger communities of Aniak, Emmonak, Hooper Bay, St. Mary's, and Toksook Bay serve as sub-regional hubs. Villages are connected to Bethel by air and water. The Yukon River and Kuskokwim River are used as ice roads when frozen over in the winter, providing much needed transportation between communities.

Subsistence harvesting is a critical economic and cultural activity for communities in the Yukon-Kuskokwim Region. The Alaska Department of Fish and Game, Division of Subsistence, reported in 2017 that about 70% of households in western Alaska participate in harvesting game, and 98% participate in harvesting fish. Recent declines in the king salmon population have negatively impacted many subsistence fishers in the region.

Fig. 8: Yukon-Kuskokwim Region



Calista Corporation, the region's Alaska Native Corporation, has 6.5 million acres of land and approximately 23,000 shareholders.<sup>43</sup> Yukon Kuskokwim Health Corporation (YKHC) provides for the healthcare needs of communities in the region. With nearly 2,000 employees, YKHC is also the region's largest employer.

### Leadership

Support and coordination for EMS in the Yukon-Kuskokwim Region come from the Yukon-Kuskokwim Health Corporation, which employs an EMS Manager and a field coordinator. The Bethel Fire Department is led by a full-time Fire Chief and Fire Captain. At the local village level, EMS is often led and coordinated by CHA/Ps.

### Finance

Funding for EMS in the Yukon-Kuskokwim Region comes from the Yukon-Kuskokwim Health Corporation, transport revenues, the State EMS grant, and Code Blue funding.

[41] U.S. Fish and Wildlife Service, National Wildlife Refuge System. (2014, November). *Yukon Delta National Wildlife Refuge, History*. Department of the Interior. [https://www.fws.gov/refuge/yukon\\_delta/about/history.html](https://www.fws.gov/refuge/yukon_delta/about/history.html).

[42] Fall, J.A. (2018). *Subsistence in Alaska: A year 2017 update*. Division of Subsistence, Alaska Department of Fish and Game. [https://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence\\_update\\_2017.pdf](https://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence_update_2017.pdf).

[43] Calista Corporation. (2021). *Our region*. <https://www.calistacorp.com/shareholders/shareholder-overview/our-region/>.

## Challenges and Opportunities

The major challenges facing the Yukon-Kuskokwim Region are largely related to workforce recruitment and retention. Bethel Fire Department has faced an ongoing struggle to recruit and retain paid staff as well as supplemental volunteers. Villages also face challenges recruiting and retaining CHA/Ps.

Informants for this study report that the region has more than 40 CHA/P openings and that the COVID-19 pandemic has added additional responsibilities to the CHA/P role, leaving little energy for CHA/Ps to coordinate EMS at a local village level. Informants say that, in addition to the education and testing required, the stress and emotional toll of the CHA/P role are major challenges. This is especially true in villages where a solo CHA/P is the community's only healthcare resource. One CHA/P says, "I can't go anywhere without being stopped and asked about some medical problem. It never stops." Informants say that each village is unique in terms of local EMS participation and resources. Some villages are extremely supportive of EMS, while others provide little support. There is a huge need and opportunity to better understand the emotional, psychological, and resilience needs of CHA/Ps, and to seek programming to meet these needs.

Other opportunities and challenges in the Yukon-Kuskokwim Region are: improved emergency dispatch training and support in Bethel; better data and information about EMS activity in the villages; finding ways to incentivize EMS participation in the villages; and improved access to basic EMS training.

## MAJOR OBSERVATIONS

In studying EMS in Alaska, we sought to identify major observations that go beyond the conventional evaluations of EMS systems. Alaska has generally been successful in applying common EMS principles and practices and learning from clinical research and experience over the past 50 years of EMS in the state and across the nation. Alaska EMS has competent clinicians, medical direction, and administrators. We assume that Alaska will continue to be successful in these areas into the future. The 16 major observations below highlight successes and valuable opportunities and challenges ahead, and point to a threshold of opportunity and possibility. Each is described in detail in the sections following.

### Observations

- 1 Alaska EMS is viewed as functional.
- 2 The strength of Alaska EMS is its adaptability.
- 3 Alaska EMS faces significant challenges.
- 4 Alaska EMS faces big opportunities.

- 5 Alaska EMS lacks clarity of leadership, vision, and coordination.
- 6 Basic data about Alaska EMS is absent.
- 7 Regulatory statutes and codes are outdated.
- 8 Basic system planning is lacking.
- 9 EMS in rural and frontier Alaska is fragile.
- 10 Local communities/services lack resources for change.
- 11 The value of enthused rural leaders is hard to overstate.
- 12 The challenging EMS role of CHA/Ps needs more study.
- 13 Needs related to EMS provider psychological wellbeing are unmet.
- 14 Air medical operations are highly competitive and lack coordination.
- 15 EMS is the default supplier of non-emergent medical transportation.

## 1 Alaska EMS is viewed as functional.

Today EMS in Alaska is functional in the response, care, and transportation of patients in an environment of vast distances, extreme climate, and geographic and cultural challenges. Informants on all fronts agree that EMS in Alaska works. To “work” means that when and however help is summonsed, people respond, patients receive care, are transported to immediate care facilities, and when necessary are transported long distances to tertiary care centers. In Alaska, this is no small feat. Nearly all the EMS providers, physicians, administrators, and leaders we spoke with for this study express some pride in what Alaska has achieved.

With limited data, performance measurement criteria, and tools, it is difficult to assess the fine points of how EMS in Alaska is performing. There is no broad performance outcome data that we can point to that says Alaska EMS is successful. However, in the broad subjective arena of satisfaction, Alaskans are satisfied with, and often even enthused about, the performance of EMS in the state and readily accept the limitations imposed by geography, climate, and a common desire for independence and self-determination.

## 2 The great strength of Alaska EMS is its adaptability.

Like so many things in Alaska, the great strength of Alaska EMS has been its adaptability. This adaptability can be seen on many fronts. The use of village primary care personnel to deliver EMS, the development of unique first responder training, progressive EMT levels that address Alaska-specific needs, the amalgamation of transportation tools, the use of Regional EMS Councils to support and develop EMS in challenging

environments – all these developments reflect an admirable adaptability and willingness to imagine, create, and innovate. This strength is the result of dedicated people who have given much to create Alaska EMS.

### 3 Alaska EMS faces significant challenges.

EMS in Alaska faces difficult and growing challenges related to ensuring access to care, the system's capacity, and the equitable distribution and delivery of services. On the surface these challenges are about workforce and funding – two needs that are acute for many services across the state. Beneath the surface, however, these challenges are fundamentally about how EMS in Alaska is viewed, led, valued, and resourced.

Informants across the state describe workforce as the leading challenge today and into the future. Across all delivery models (volunteer, paid, fire-based, non-profit, for-profit, and provided by Native Tribal Health Organizations) finding and keeping enough right people who are prepared, capable, enthused, and committed has become increasingly more challenging and important. Without willing, enthused, and committed workers, EMS cannot function.

Informants report that a new generation of EMS workers are expecting more in terms of a positive work environment, rewards, wellbeing, leadership, culture, and ongoing improvement. The emerging group of workers is challenging the EMS employment value proposition and demanding new and innovative thinking about employee satisfaction and wellbeing. These workers expect to realize both the intrinsic and extrinsic benefits of the EMS role and are prioritizing balance and emotional and psychological wellbeing. These workers are more likely to ask “why” and expect their personal sacrifice to be met with a deep sense of meaning and commensurate community and governmental sacrifice and support for EMS.

The decline in volunteerism as a primary rural, remote, and frontier staffing tool is real and significant, and it likely signals a change that will not be reversed. The decline in this resource is already having an impact on the reliability of rural EMS and hastening the burnout of remaining volunteers. The heavy use of CHA/Ps in the delivery of village EMS is a great success but may not be sustainable. CHA/Ps interviewed for this study report that heavy EMS responsibilities coupled with primary care responsibilities are impacting their sense of satisfaction as well as their psychological health and wellbeing. They note that these factors are contributing to high turnover in the role.

Next to workforce is the challenge of financial resources. The cost of providing EMS continues to rise as demands increase, clinical expectations grow, healthcare continues to regionalize, and transportation and labor costs rise. At the same time the subsidy of donated labor is disappearing, paid workers are expecting more, reimbursement for medical transportation is declining, and EMS is increasingly being used for the non-emergent movement of patients within an ever more complex healthcare system.

These challenges are beginning to impact the reliability of EMS in Alaska at a local level. Informants report

that some rural EMS agencies are not able to respond when called because they do not have available providers. Other informants report that local first responder groups are becoming harder to maintain. While a service may have excellent equipment, training opportunities, and advanced protocols, if there is no one available to respond, it is not a viable operation. And when rural services experience shrinking participation, with only a few members trying to maintain 24/7 availability, they are unsustainable.

While these workforce and funding issues have a profound impact on access, capacity, and the equitable distribution of services, they speak to the deeper issue of how EMS in Alaska is envisioned, led, valued, planned, structured, and evaluated. Alaska will not be able to address the issues above without rethinking and reimagining how EMS is provided in urban, rural, and remote areas. If EMS is not truly valued as an essential service and a public good, and if it does not become an integral and supported part of healthcare in Alaska that is structured and led as such, it will likely not be reliable and sustainable in many areas.

#### 4 Alaska EMS faces big opportunities.

Today the big opportunity for those leading Alaska EMS is to expand beyond the management and regulation of a clinically and operationally functional system, to truly lead EMS into a future that is sustainable, appropriately funded, equitable, and that has the necessary capacity. Informants express a deep desire for EMS in Alaska to progress in this manner. The opportunity now is to create long-term sustainability by moving on from the approach of years past.

The first 50 years of Alaska EMS has largely been about the proof-of-concept. The concept was to develop clinical and operational capacity throughout Alaska in a manner that met the functional out-of-hospital emergency medical needs of Alaskans. The work was to manage this development by overseeing course development, certification and licensure levels, clinical care, clinical oversight, protocols, equipment, vehicles, and regulation. These activities were necessary to serve the organic, unmandated, and local manner in which EMS developed in the state. These have been viewed as most important and have dominated activity, attention, structure, statute, and focus.

These activities followed a national view of EMS that was described in NHTSA's 1996 *EMS Agenda for the Future* document and emphasized 14 attributes of an EMS system. The impressive 2003 *Alaska EMS Goals* document is a manifestation of this approach. While there is still much to do in the ongoing address of the 14 attributes, the concept has been proven. It is indeed possible to access, respond, treat, and transport in the Alaskan environment.

Missing in the first 50 years of Alaska EMS has been the development of the broad public value and support for emergency medical services necessary to meet the challenges outlined above. EMS has not been positioned as a necessary or essential service and as a public good deserving whatever public support is necessary. This is especially true in rural Alaska.

Now, as Alaska EMS continues the management and distribution of training, equipment, and vehicles, as well as the regulatory functions of certification, licensure, and oversight, those leading EMS must also begin to lead in a manner that brings to bear the necessary recognition, value, and resources to ensure EMS is truly sustainable in all corners of the state. At its core, leadership is about influence. The great opportunity now is for leaders to bring the necessary vision, planning, and support to influence the future direction of Alaska EMS.

## 5 Alaska EMS lacks clarity of leadership, vision, and coordination.

Informants throughout the state and its major EMS organizations are unclear about the direction and leadership of Alaska EMS. Informants interviewed for this study ask, “Where is EMS in the state going? Who is really in charge?” One informant observes, “There is little real planning for the future.” Informants express a desire for clarity about priorities and better understanding of how the various structural elements such as ACEMS, the Office of EMS, and the State EMS Regions can best work together. Our findings highlight the following:

### a. Who is leading EMS in Alaska is not clear.

The manner in which EMS developed in Alaska has not produced a clear leadership structure. As stated above, the provision of EMS in Alaska is a local function that exists solely at the will of local people and local organizations. Neither the Alaska State Office of EMS nor the seven EMS Regions provide EMS. However, EMS is developed and supported by EMS Regions, and the Office of EMS and the Board of Medicine regulate and oversee it. The Governor’s advisory council, ACEMS, also has a place in shaping EMS in the state. All of this has led to confusion about who leads EMS, who is really in charge, and who is pulling the levers of power related to EMS in the state.

### b. The vision for the future is not clear.

A vision clearly describes direction and destination. It reflects an acknowledgement that nothing is static and seeks to meet the future by imagining and creating it. More than words or a statement, a vision is a shared understanding of direction and what is being created or developed. At the state, regional, and local levels informants for this study express either no sense of the current vision or conflicting visions of the future. This lack of clarity is concerning because it hinders knowledge of where to invest time, energy, and resources. It relegates decision-making to reactivity, and it limits the focus to management only. There is clarity neither of a macro vision nor a micro vision for EMS in Alaska, and more importantly, it is not clear where and how any vision for the future should be created.

### c. The role of the Office of EMS is not clear.

While the roles and responsibilities of the Office of EMS are spelled out in Alaska

Administrative Code, a shared understanding internally or externally of the exact mission of the Office of EMS is missing. In statute (AS 18.08.010), the scope, responsibilities, and charge of the Office of EMS is staggeringly large and includes

- the development, implementation, and maintenance of a statewide comprehensive emergency medical services system;
- the coordination of public and private agencies engaged in the planning and delivery of emergency medical services, including trauma care, to plan an emergency medical services system;
- assist public and private agencies to deliver emergency medical services, including trauma care, through the award of grants in aid;
- to conduct, encourage, and approve programs of education and training designed to upgrade the knowledge and skills of health personnel involved in emergency medical services, including trauma care; and
- to establish and maintain a process by which hospitals and clinics can represent themselves to be trauma centers because they voluntarily meet criteria adopted by the department.

The Office of EMS is understaffed to meet this charge. Informants (internally and externally) agree. Additionally, and like its counterparts in other states, the Office of EMS is expected to wear two hats and be both developer and regulator of EMS. Often these roles conflict, and when staff and resources are limited the Office must decide what is most important. This makes leading difficult and is confusing internally and externally.

d. In practice the role of ACEMS is not clear.

In statute the role of the Alaska Council on Emergency Medical Services is to advise the Governor and Commissioner of Health and Social Services in matters pertaining to the planning and implementation of a statewide emergency medical services system. However, among ACEMS members and throughout the Alaska EMS community, the role is not clear. Informants question whether the role is simply to advise the Commissioner and Governor, or to actually plan and implement initiatives. Some informants believe ACEMS's time is over and the body is no longer relevant. Others suggest the main body is no longer instrumental in advising the Commissioner and Governor, but that ACEMS committees are indeed effective.

e. The role of EMS Regions is not clear.

The roles and responsibilities of the seven EMS Regions are unclear, resulting in

inconsistencies. While Alaska State grants to the seven EMS Regions stipulate specific annual activities and expectations, each Region has a unique view of its role. In FY22 the EMS Region grants delineate responsibilities including training and testing, data management, quality improvement, regional medical direction, and local EMS service and personnel technical assistance.

That said, each EMS Region has a unique approach to its EMS program, and leadership of the seven EMS Regions lacks a shared view of the role. The needs of the three non-profit EMS Councils are very different from those of the three EMS Regions led by Tribal Health Organizations. These differ still from the needs and challenges experienced by EMS in the North Slope Borough.

For example, EMS Regions have different approaches to training, and understand their roles supporting training differently. EMS Region staff see outreach regarding training opportunities, as well as training coordination and provision, as within their purviews; however, one informant also stated, “We are not required by our operating grants to provide training.” Training is seen as an appropriate area for EMS Regions to take many possible roles in, and not necessarily viewed as a responsibility or requirement. This lack of clarity has led to widely divergent approaches, with one Region, for example, staffing a Training Coordinator to actively promote and conduct training at various certification levels, while other Regions are either not active or are only sporadically active in promoting, coordinating, and providing training in their areas. Different needs, conditions, and understandings of roles and responsibilities are part of the complexity, and the challenge, of Alaska EMS.

In interviews with informants throughout the state, it became evident that the EMS Regions view themselves, in part, as Technical Assistance Centers. However, the Regions do not have a common approach to the assistance provided. The assistance provided is largely focused on training, certification, clinical care, and equipment and training. Little is being done in the areas of workforce planning, recruitment and retention, local leadership development, and emotional and psychological wellbeing.

f. The lack of clarity is impeding collaboration.

Without clarity regarding the roles of the various EMS players in Alaska, and without a clear sense of who is in charge and of “the room where it happens,” it is difficult for Alaska to form a vision for the future that will address the emerging challenges. Clarity about who is involved, who is in charge, and who has what responsibilities is a minimal requirement for the various groups involved in Alaska EMS to leverage strengths into successful collaboration.

## 6 Basic data about Alaska EMS is absent.

Compounding the lack of clarity about leadership, roles, and coordination is the absence of basic data about Alaska EMS. While Alaska, following national practices, has invested in the collection of comprehensive clinical data and hundreds of data points, the state lacks reliable data, including the number of all active services; the number of active personnel; the number of requests, responses, and transports; delayed or missed requests and responses; which services are struggling with staffing; which services can help other services; and trends in types of requests, responses, and transports. Additionally, basic data from the PSAPs, which receive the bulk of requests in Alaska, is not being used to understand requests and system response.

Likewise, there are significant gaps, inconsistencies, and shortcomings related to data-collection by the Alaska Uniform Response Online Reporting Access (AURORA) system. Again, this is especially true for rural regions of Alaska. The State Office of EMS requires that all State-certified ambulance services submit electronic patient care reports to AURORA; however, reporting is inconsistent and often partial. Services that are not certified, moreover, are not required to report. Data available through AURORA thus represents a very partial, and thus oftentimes misleading, view of EMS in the state. Further, reporting from AURORA has yet to establish its value.

It is currently difficult to get a clear and comprehensive picture of activity across all seven EMS Regions. Data is lacking, especially in rural areas, and there does not appear to be a centralized system in place to track or take stock of activity statewide. There is no way to easily identify, for example, how many EMS training courses have been delivered by Regions to date, or where and how mini-grant funding is currently reaching services and communities.

Because of the limits in basic data, it is difficult to track system failure unless it is colossal and shows up via the media or other public means. Weakness and failure, however, are also about system reliability in terms of access to care and the capacity to respond. Weakness shows up in delays, failure to respond, competition-driven call hoarding, and other events or trends traceable in reliable data. Failure shows up in missed responses and dispatch errors. This is important when considering the future and how to assure, at a very basic level, that EMS responds.

## 7 Regulatory statutes and codes are outdated.

EMS in Alaska is regulated by Alaska Administrative Code (AAC). These are the rules developed by the executive branch of government and passed into statute by the State Legislature. According to informants for this study, rules regulating Alaska EMS are outdated and cumbersome, with unnecessary detail inhibiting agility and change. Numerous informants observe the need to update, simplify, and consolidate these regulations. The issue has been raised by other assessments; however, to date these criticisms and observations have resulted in a band aid approach only, not a complete overhaul of the regulations.

This issue includes the licensing of MICPs (paramedics) under the Department of Commerce State Medical

Board. Legislation is reportedly in the works to shift the certification or licensure of MICPs to the Alaska State Office of EMS. Informants for this study believe this development will provide an opportunity for a complete overhaul of Alaska's EMS regulations.

## 8 Basic system planning is lacking.

When looking at Alaska EMS through the lens of access to care and healthcare disparities it is important to recognize that EMS in Alaska developed locally and organically with very little statewide or regional planning. The deployment of resources has been driven more by economics and population than by considerations related to access to care. EMS resources exist where there is a local will and way, and not necessarily where they are needed most. This has led to what is often referred to as the “paramedic paradox” – the presence and availability of advanced level resources where they are needed the least, while a shortage or lack of advanced level resources exists in areas that need them the most. Such a lack of planning has also led to a highly competitive air medical resources market that lacks centralized coordination.

Basic system planning, whether at the state or regional level, considers patient care, need, distance, geography, and receiving facilities, and then makes decisions about where to position resources (first responders, BLS resources, ALS resources, and air medical resources). The system then seeks to fund, support, and sustain what is in the best interest of patients.

While this approach to EMS planning may seem unrealistic or far too idealistic, it offers a powerful exercise in first, understanding what a patient-centric and outcome-driven Alaska EMS system might look like, and second, exploring what genuine equity in the delivery of EMS would entail.

Some Tribal Health Organizations in Alaska have sought to approach rural healthcare from a systems perspective, planning for access to care and addressing healthcare disparities. The Alaska Tribal Health System has sought to place primary care health clinics where people are, regardless of volume.

## 9 EMS in rural and frontier Alaska is fragile.

As fiercely proud and independent as rural EMS in Alaska is, it is also deeply reliant upon local support and volunteerism. As volunteerism declines, the fragility and precariousness of rural services increases. It is a fragility, however, that remains largely hidden. A surprising finding of this study is the lack of regional knowledge and awareness of the sustainability of specific rural services. In site visits we listened as local people debated whether or not a given EMS service was still operating. While rural EMS is propped up by a handful of people scattered across rural Alaska, the system also lacks adequate oversight and the ability to account for and gauge the condition, strength, and sustainability of its components. It is unclear how long many rural ambulance services can continue to operate as they are currently. Informants from rural services do sometimes express concerns about sustainability; however, there does not appear to be significant, coordinated, or systemic engagement in planning and preparation for the future.

## 10 Local communities/services lack resources for change.

“Someone will call and no one will respond,” is the greatest fear of one rural provider we interviewed during this study. As rosters shrink, the immediate risk is that EMS providers will not respond or will be delayed. Response delays or failures may increase morbidity and mortality for those needing help. The long-term danger is that EMS agencies will close, leaving rural residents without rapid access to emergency medical care.

The provider above went on to say with great concern and exasperation, that she does not know what to do. Because EMS is a local responsibility in non-Native rural Alaska, and the responsibility to create, have, and sustain EMS is a local function, the burden of moving from an unsustainable model to something new rests on local providers and residents. In fact, some rural providers we spoke with see no path forward and plan to serve as long as they can and then shut the doors.

Rural informants report that they are unprepared to lead any sort of change. The role of leading change is one of bringing awareness to a problem, highlighting the risks involved, seeking knowledge about alternatives, gathering a coalition of people who share the concern, and then exerting influence to garner resources and make a change. This is much to expect from rural EMS providers. Informants we spoke with are emphatic about needing help in navigating change.

## 11 The value of enthused rural leaders is hard to overstate.

During this study, we sought to pay attention to locations where EMS is thriving. By thriving we mean that services are supported, they attract workers, and they have a vision for the future. A common ingredient in these services is an enthused, influential, and optimistic leader. These leaders – a First Chief of a small Native village on the Yukon River, a 30-year veteran CHA/P in Norton Sound, a dynamic EMS leader in the Matanuska-Susitna Borough, and a passionate mother from an unincorporated non-Native community in the middle of Tanana Valley – all have and are making a huge difference in the success of EMS in Alaska.

A long-time EMS Region director calls these people “spark plugs” and has found that their presence or absence often makes the difference in how well EMS does in a community. This director points out that these leaders have some common characteristics, the combination of which seem to spark EMS and keep it healthy in their communities.

We visited one collection of rural communities and villages where EMS had thrived for years. Recently, however, things had fallen apart. Services have closed or no longer have enough people to consistently operate. We learned that the long-term spark plug was no longer there. We visited another area where EMS was flourishing. The explanation was the coming and emergence of a local leader.

In discussing these local “spark plug” leaders with regional teams, we find the leaders have some common characteristics. These include: Contagious enthusiasm and optimism; a vision that things could be better; the

willingness to risk, often personally, to push the vision forward; an ability to transfer enthusiasm to others; broad respect and the ability to influence others even in environments of controversy and disagreement; and great perseverance in the midst of trouble. We noticed these leaders have energy. They are not worn-out, over-committed, or sacrificing personal health and wellbeing for the cause. Instead, they have or are in the process of building teams around them. They are all true leaders.

## 12 The challenging EMS role of CHA/Ps needs more study.

The provision of emergency medical care by CHA/Ps may be coming at a price. We met and spoke with many CHA/Ps over the course of this study whose experiences and input point to the human costs of the system as it is currently functioning. Included here is our interpretation of initial work to be done, with the understanding that much more research is needed to address root issues and build capacity. In the immediate future, we see a need to address work-related stress and burnout among CHA/Ps, and a need to train and coordinate EMS support for CHA/Ps in their communities. Both these needs require deliberate and coordinated planning, a commitment of resources, and an investment of time.

Our interpretation comes from meeting and listening to CHA/Ps in villages describe their experiences, hopes, fears, and what they like and dislike about their job. We learned that the responsibilities CHA/Ps carry on a daily basis take a toll. Burnout and stress appear to be common, heightened by understaffing and high CHA/P turnover. CHA/Ps and others described to us the pressures and difficulties of providing medical care in remote, small communities made up of friends and relatives. Emergencies, which account for approximately 6% of all CHA/P patient encounters (on average, one emergency per month, per village) amplify these pressures.<sup>44</sup> One CHA/P conveys the problem eloquently, saying, “We can only do so much.” While CHA/Ps bear enormous responsibility during times of emergency, the reality is that the conditions they work in limit their options, and positive outcomes are far from guaranteed.

The role of emergencies or emergency medical care in CHA/Ps’ experiences of work-related stress has not, to our knowledge, been specifically identified or researched. Emergency care is a 24-hour-a-day, 7-day-a-week responsibility and one that requires CHA/Ps to maintain high levels of vigilance and preparedness over and beyond working hours at the clinic. Furthermore, providing emergency medical care can involve extremely high stakes, intense emotions, uncertainty, and a lack of control – all of which magnify stress.

In many villages across Alaska, CHA/Ps are the only trained individuals in the community who respond to emergency medical situations. Absent other trained village members, CHA/Ps become the sole carriers of the physical, emotional, and psychological work of emergency response.

While we did meet some CHA/Ps who enjoy the role and actively pursue the extra training that leading

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[44] Golnick, C., Asay, E., Provost, E., Van Liere, D., Bosshart, C., Rounds-Riley, J., Cueva, K., Hennessy, T.W. (2012). Innovative primary care delivery in rural Alaska: A review of patient encounters seen by community health aides. *International Journal of Circumpolar Health*, 71. <https://dx.doi.org/10.3402%2Fijch.v71i0.18543>.

emergency response entails, many others were not especially interested in EMS. For these, the expectation and assumption that they lead EMS in their communities can be burdensome and stressful.

Training is a key question in the context of Alaska's villages. We heard from many informants that while it is common for villages to have Search and Rescue (SAR) and/or identified first responder groups, individuals in these groups are not always trained in any way. Lacking training, these (often informal) groups are limited in how effective and helpful they can be. The CHA/Ps we spoke with support increased outreach to and training of village responder groups and other residents.

Currently, when an EMS Region does coordinate and provide training – and many EMS Regions do so only sporadically and in a limited capacity – the Emergency Trauma Technician (ETT) course is often what is offered. The ETT program appears to be an entrenched feature of the EMS system in Alaska. Unique to the state, the ETT program as it is taught today was developed by the Southeast Region EMS Council (SEREMS) and provides basic emergency medical skills such as patient assessment, splinting, hemorrhage control, CPR, and the use of automated external defibrillators (AEDs). The ETT program enjoys near ubiquitous acceptance throughout Alaska as the chosen entry point to emergency medical care and is widely taught across EMS Regions.

Informants for this study, however, note several obstacles to teaching the ETT course in villages, whether to the general public or to members of already identified first responder groups. For one, it is often hard to find people interested in committing the 40 hours of training the ETT course requires. Informants also tell us about the difficulties of scheduling training around villagers' seasonal patterns and subsistence activities. In the summer, when instructors are best able to travel and the weather permits a reliable training schedule, villagers are often themselves engaged in subsistence activities away from home and are unable to attend. These logistical difficulties, we were told, can be significant barriers to delivering more education and training to village residents.

It is our observation that logistical problems, as well as the challenges of attracting interest in and commitment to training, are related at a deeper level to expectations and to the question of how and what about EMS training is valued. Understanding what is valuable to, and what is needed by, potential students in Alaska's villages is a first step in crafting effective strategies to increase capacity.

We might reframe training challenges posed by villages as matters of closing the gap between the kind of EMS training village residents, including CHA/Ps, desire and what the EMS Regions most commonly promote or offer. As outlined above, EMS Regions focus most often on providing ETT training. Our observations, however, support the need amongst village residents for less formal and less time-intensive, "small bite," alternatives. These include training opportunities in basic first aid and basic emergency response and patient movement skills. Classes like "Stop The Bleed" or Wilderness Survival Training appeal to CHA/Ps and other village leaders we spoke with during the study. The goal is to build up a critical mass of individuals capable of providing appropriate and safe assistance during emergency events. Training in the villages might include

simple exposure to EMS, with skills such as bleeding control, positioning patients, and transporting them to the clinic.

There are significant challenges to providing effective EMS training in villages. Challenges include inspiring interest in EMS amongst village residents; scheduling training sessions; funding training sessions (the major hurdle being the cost of instructor travel); providing appropriate and relevant training; and maintaining skills. Meeting these challenges will require further research and a dedication of resources.

### 13 Needs related to EMS provider psychological wellbeing are unmet.

A strong and repeated theme of this study is about tending to the psychological wellbeing of EMS providers throughout the state. Informants representing all sectors of EMS in Alaska – including flight teams, urban firefighters, EMTs and paramedics, CHA/Ps, and rural volunteers – speak to this important issue.

Over the course of this study, several issues pertaining to EMS provider wellbeing came to light. Many young providers come to the EMS field without the psychological grounding needed for the inherent stress of the work. Rural and Native providers regularly provide care to patients who are also family, friends, or acquaintances, often in traumatic situations. Providers in remote areas provide care to critical patients in situations that tax their knowledge and skills for long periods of time. Providers across the state carry the responsibility of being the medical representative responsible for terminating unsuccessful resuscitation attempts. And in many areas of the state, EMS providers must deal with patients suffering from problems that have social and cultural roots.

To meet the emotional, psychological, and spiritual challenges posed by critical events, Alaska has an active first responder Critical Incident Stress Management (CISM) team housed under the Alaska Police and Fire Chaplain organization. The Alaska Native Tribal Health Consortium (ANTHC) also has a trained CISM team. The two groups work together to support first responders in the aftermath of traumatic events.

Listening closely to informants, however, reveals a need for something much more than attending to critical incidents. Informants for the study note the expectations of a new generation of EMS workers in Alaska. One informant says, “Alaskans tend to be a hearty bunch and suck it up and do the job. But our new EMTs aren’t doing that.” She suggests that younger providers are less willing to ignore or redirect feelings and expect to realize more of the intrinsic rewards of the work. These workers want wellbeing as much as a paycheck, and will quickly leave the profession if not satisfied. The need seems to be about better preparing providers for the psychological demands of the role and cultivating and supporting wellbeing and resilience over the long haul.

### 14 Air medical operations are highly competitive and lack coordination.

Air ambulances and long-distance medical transportation are a vital component of Alaska EMS. As weather permits, fixed-wing and roto-wing resources respond to and transport thousands of patients each year. These

services are provided by a mix of public, for-profit, and non-profit entities. Air medical services in Alaska are largely unregulated and are engaged in competition for contracts and patients. Data on activity, fees charged for services, and the medical necessity of transports is limited. Services were reluctant to share details they consider proprietary and are not required to submit patient care reports.

Informants for the study describe the following issues as challenges related to air medical services: a lack of coordination in the dispatch of these resources; a lack of coordination of resource placement (including aircraft and crew); confusion amongst healthcare facilities and the public as to who to call for these services; more than one service being summonsed and launched for the same patient; some air ambulance services holding on to flights until resources are available; healthcare facilities shopping for services to take flights; confusion about memberships; and exorbitant billing.

The reason for these issues is two-fold. First, air medical services are expensive to operate and are reimbursed by Medicare and insurances at much higher rates than ground ambulances. Secondly, air medical services are governed by federal laws and not subject to the same limitations as ground ambulances. Air medical services fall under the 1978 Airline Deregulation Act (ADA). This act was intended to encourage competition in the airline industry and prohibits state regulations that impact price, route, or service. These regulations allow air medical services to charge high rates that often leave patients with significant bills. Ground ambulance services are regulated under the Affordable Care Act as well as any other applicable state laws.

Air medical transport can be a lucrative and profitable business. This has attracted for-profit air medical providers to Alaska. This is generally good for Alaska; however, informants are concerned that competition may be a greater driver of these services than what is best for patients, and some feel that more coordination between air medical providers is needed, even as these services may be immune to state regulation.

## 15 EMS is the default supplier of non-emergent medical transport.

This study finds that, in Alaska, EMS resources are often the default supplier of non-emergency medical transportation (NEMT). Informants are concerned that valuable EMS resources are being utilized for NEMT, thereby diluting limited rural EMS capacity and masking a genuine and important need for planned NEMT throughout Alaska.

Because of distances, geography, weather, lack of roads, and limited healthcare facilities, medical transportation is an important element of accessing care in Alaska. Throughout Alaska and especially in rural areas people need: medical transportation to clinics, regional health centers, hospitals, specialized treatment facilities, and recovery or sobering centers; transportation between healthcare facilities; and at times medical transportation from healthcare facilities to home or other locations. That said, informants believe there is an important distinction between emergency medical transportation and non-emergency medical transportation that is not being addressed by the current system.

Alaska's Medical Assistance Provider Billing Manuals provided by the Department of Health and Social Services defines emergency medical transportation as transportation:

required immediately when a sudden, unexpected occurrence creates a medical emergency. A medical emergency exists when a recipient has a severe, life-threatening, or potentially disabling condition that requires medical intervention within minutes or hours.

The billing manual describes NEMT as non-emergent medically necessary travel by ambulance, wheelchair van, bus, taxi, helicopter, airplane, ferry, or train. EMS provider informants suggest that a large majority of EMS responses and transports in non-urban areas of Alaska are not emergent in nature but are simply about medical transportation.

In considering this issue we found the following:

- In non-urban areas of Alaska provider informants report that many, if not most, patient transports do not need emergency medical care, EMS personnel, or EMS equipment, and the need is not time sensitive. The primary need is transportation to or from a medical facility. Patients may or may not need recumbent or supine positioning.
- Informants report that EMS resources are regularly and increasingly being used to transport behavioral or mental health patients who are not having a medical emergency and do not need immediate medical transportation. Because there is no other means of transportation for these patients, EMS becomes the default transportation. A medical flight crew member estimates that less than 10% of his medevac flights meet the definition of emergency medical transport.
- CHA/Ps and village health clinic personnel report that within Tribal Health Organizations, attempts are made to limit the use of medevac transportation and to use commercial air flights (often with an accompanying companion) for medical transportation.
- Medical transportation that is non-emergent is common in the air medical field, but such transportation is described by some informants as essential to the financial sustainability of some flight services in Alaska.
- Informants report that some NEMT needs are not being met appropriately because there is no system-wide planning for NEMT.

We are unable to find data that would confirm these reports and observations, but we believe NEMT is an issue that impacts EMS in Alaska and needs more understanding. We are currently unable to ascertain whether NEMT is diluting EMS resources and impacting reliability.

# RECOMMENDATIONS

The following ten recommendations are offered as the beginning of a visioning and planning process and not as a final plan or road map for the future.

Recommendations:

- 1 Cultivate ongoing curiosity and inquiry about the vital elements of Alaska EMS.
- 2 Engage in a comprehensive visioning process.
- 3 Create the necessary structure and leadership to support the vision.
- 4 Commence a statewide EMS system planning process.
- 5 Prepare and equip the EMS Regions to be Regional Technical Assistance Centers.
- 6 Foster more collaboration among Alaska's air medical services.
- 7 Commission a study of CHA/Ps' EMS role.
- 8 Invest in ongoing leadership development at all levels.
- 9 Establish regular statewide EMS workforce planning.
- 10 Invest in provider wellbeing, mental health and resilience.

## 1 Cultivate ongoing curiosity and inquiry about the vital elements of Alaska EMS.

Today, data and information about the basic elements of Alaska EMS are not readily available. Ensuring Alaskans have ready access to out-of-hospital emergency medical response and transportation amid the current challenges demands curiosity and inquiry about the vital elements of Alaska EMS. Think of this as monitoring Alaska EMS's vital signs. The task is to regularly monitor the health of EMS in Alaska by having an immediate command of basic indicators and noting trends, needs, and where to invest resources. This curiosity and inquiry should be focused on cultivating dashboard-style awareness about accessibility, reliability, sustainability, and capacity.

The Office of EMS, in collaboration with the seven EMS Regions, should seek to develop the ability to continuously monitor basic data and information about the following:

- The number, location, and level of EMS agencies and organizations in the state (specifically learning more about the uncertified response and transport services, as well as the informal EMS groups);
- Seek to inquire about these services and rate them as active, healthy, or struggling, as determined by available personnel, leadership, structure, and responsiveness;

- The number and location of EMS requests, responses, and transports throughout the state;
- The clinical nature of these requests, responses, and transports, with curiosity about training needs and whether services provided were urgent, emergent, or non-emergent medical transportation;
- The number, level, and location of EMS workers in the state, including the large number of ETTs and CHA/Ps who are active but not currently monitored by the state or regions;
- The number of these EMS workers who are active (regularly available to respond and engaged in their organizations' operations and training);
- The quantity, location, and type of education and training provided throughout the state.
- Response delays and failures, with an eye toward where EMS resources are geographically needed and not needed, and where resources are struggling. This will likely involve developing and cultivating new sources of information from primary and secondary PSAPs, Native Health Corporations, and air medical providers.

Developing the methods and the means to continuously assess and monitor these basic elements in a dashboard-style format will create a foundation for the early recognition of breakdown, opportunities for improvement, and where to invest resources, conduct an intervention, or provide support.

## 2 Engage in a comprehensive visioning process.

Today, there is no clear and shared vision for Alaska EMS. What will Alaska EMS look like in 2050? The next 20 years will present significant opportunities and challenges for the current EMS system in Alaska. Equitable access, workforce, funding, sustainability, system capacity and development, education, deployment of resources, leadership, regulation, medical oversight, and the ongoing integration of EMS into healthcare, public safety, and preparedness are all areas that will benefit from a visioning process and planning. Pausing to envision and create a desired EMS future will benefit all Alaskans.

Alaska should engage in an in-depth, multi-month process that includes major EMS and non-EMS stakeholders to identify a realistic and achievable vision for the next 30 years of EMS in Alaska. The process should seek to envision what it might take to create a future where Alaska EMS is valued, funded, accessible to all, has the capacity to meet current and future needs, is sustainable (appropriately valued and resourced), and meets expectations for quality.

Borrowing from the national 1996 *EMS Agenda for the Future* and the *EMS Agenda 2050* project, this process should be ground-breaking in creating a state-focused vision for the future of EMS in Alaska. At a national level, the visioning process has helped guide important projects, activities, and funding. At an Alaska level this

process can bring together the experience, knowledge, and creativity of EMS throughout the state to create a shared and guiding vision for the future.

This Alaska EMS Visioning Project would provide an in-depth look at: where we have been, where we are today, and where we are going. The process would create a guiding document that describes an achievable vision for EMS in Alaska in 2050 with key attributes, focus areas, and steps toward achieving the vision. The process will include input from all relevant stakeholders and stakeholder groups and provide ample time and opportunity to solicit feedback and garner buy-in.

The process would likely be led by a vision development team made up of a small group of experts and key EMS leaders from Alaska (no more than 15 people) and advised by a large stakeholder group of representatives from all relevant organizations, associations, groups, and constituencies. There would be numerous opportunities to engage with and provide input on the project and process, including public meetings, regional input sessions, public comment periods on drafts of the vision document, and a website to learn about the project's progress.

### 3 Create the necessary structure and leadership to support the vision.

Today the guiding structure and leadership of EMS in Alaska are ambiguous and reflect its early development, not the current needs and a forward vision. With a vision of the future in hand, Alaska should adjust and adapt the current structures of the Office of EMS, ACEMS, and the EMS Regions, and create whatever might be needed to realize the vision. The what and how of this will gain clarity during the visioning process described above.

This structure and leadership will address the need to both develop Alaska EMS and regulate Alaska EMS. It will honor the local and independent nature of Alaska EMS while seeking to ensure access, capacity, and equity. To that end, an update and overhaul of the State EMS rules and regulations should follow the visioning process.

### 4 Commence a statewide EMS system planning process.

Today the location of EMS resources and levels of EMS care are not the result of broad planning but simply the result of how EMS in Alaska developed locally and organically.<sup>45</sup> With Alaska's commitment to addressing disparities in access to care and ensuring there is adequate capacity to meet needs, Alaska should engage in a statewide EMS system planning process. This process will envision the entire state and seek to create an ideal

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[45] An exception to this is the planning that has occurred in Native Health Corporations. Alaska's Native Health Corporations are often models of positioning resources where they are needed and attempting to ensure access to care despite challenges arising from population, finances, distances, geography, and climate.

plan of where to position call taking resources, first responder resources, ALS resources, BLS resources, mobile integrated health resources, transportation resources, and leadership and support resources.

In creating an ideal plan, planners will be able to work with current resources and help decision makers, legislators, community leaders, funders, and citizens all prepare for and support EMS in the future. This process may be part of the visioning process but is also a very specific kind of planning that will need data and information to best plan the position of resources throughout the state. This proactive planning process should be focused on:

- Understanding the EMS needs across the state including level of care needed, volume of requests, distances, and transportation needs;
- The current resources and their sustainability;
- Where specific resources are needed (including an in-depth analysis of where emergency and non-emergency transportation resources are needed);
- How to address the significant need for statewide non-emergency medical transport; and
- How those resources may be provided, given current structures and resources.

Rather than use the lower 48 as a model for broad EMS planning, Alaska may learn much from models in British Columbia, the Northwest Territories, and Australia.

## 5 Prepare and equip the EMS Regions to be Regional Technical Assistance Centers (TACs).

Today, each EMS Region is expected, through its State EMS grant, to provide technical assistance to EMS agencies and personnel in the region. This technical assistance, however, does not include in-depth assistance in leadership, organizational development, recruiting and managing people, finance, engaging the public, and cultivating community support. Technical Assistance Center, or TAC, is a term businesses and governments use to describe a center of gathered knowledge, expertise, and skills created to help address a particular challenge, need, or population group.

Rural communities have the need for this particular kind of technical assistance. Rural EMS organizations have the need for assistance in leadership, managing people, working with volunteers, recruiting and retaining staff, motivating staff, creating an organization that keeps people engaged even when there is little action, building community support, and interfacing with healthcare, public health, and public safety.

A significant need in Alaska is helping local EMS leaders and their communities navigate a change from an unsustainable delivery model to a sustainable model. There is a process and progression that most

communities follow on the way to developing sustainable EMS models that includes:

- Assessing the reliability and sustainability of the current model and accepting the need for change;
- Identifying the full and real costs of providing EMS services to the community;
- Gaining a knowledge and understanding of the various models, best practices, and options being implemented in other locales;
- Understanding what the local community needs, wants, and is willing to fund;
- Choosing or developing an option and creating executable plans for change; and
- Obtaining guidance, leadership, and support through the long change process.

The EMS Regions – especially the non-profit EMS Councils – should develop the capacity to assist rural communities in developing sustainable, reliable, and high-quality emergency medical services. They should be prepared to provide hands-on assistance to communities with changing or failing EMS agencies that are seeking to navigate the transition from unsustainable EMS models to sustainable ones. To do this the EMS Regions should develop the expertise and resources to help rural services and communities do the following:

- Learn about EMS sustainability, reliability, and how planning can help local agencies avoid an ignominious failure or service closing;
- How to develop and support local EMS leadership;
- Assess where they are today and the sustainability of their services;
- Conduct and facilitate local discussions, community meetings, and planning sessions, and work with strong opinions and disagreement;
- Plan sustainable models that clearly understand local needs, wants, economics, and political and cultural concerns;
- Endure through the long and difficult process of change by providing guidance and encouragement;
- Access resources such as EMS delivery model descriptions, survey tools, plans, organizational by-laws, job descriptions, budget tools, and policy manuals.

Rural EMS agency and community changes take time. Not all agencies or communities will utilize the same level of services. Some communities may only need information. Some may need help in researching what local residents want and how services may be paid for. Others may need help in negotiating relationships with neighboring communities and ambulance services. Others may need guidance in creating recruiting and funding tools. All of these services should be available through the EMS Regions.

## 6 Foster more collaboration among Alaska's air medical services.

Air medical services are a large and vital part of Alaska's EMS system. Today these services are largely uncoordinated and often driven by the market. While the Airline Deregulation Act (ADA) preempts any state law or regulation related to price, route, or service that might impede competition, Alaska can seek to better understand how air medical services operate in the state and work to foster more voluntary collaboration while regulating the medical care provided by these services.<sup>46</sup>

The goals of this effort should be to: improve the patient experience of care (including quality and satisfaction); improve the health of populations; contain or reduce the per capita cost of healthcare;<sup>47</sup> and ensure the viability and availability of Alaska's air medical resources.

The first step is to seek more information and data on air medical activity in Alaska. Data and information can be gathered by mandating patient care reporting by air medical carriers. While Alaska Administrative Code 26.350 requires the completion of a patient care report it does not require the submission of this report to the state.

Secondly, the Office of EMS should seek to better understand and coordinate requests for air medical services. This may require voluntary participation by the services, but may also benefit carriers by more equitably distributing call volume.

Finally, the Office of EMS should seek to facilitate ongoing association and communication between the air medical providers in Alaska with the goals mentioned above and in an effort to look for opportunities to strengthen the air medical network in Alaska.

## 7 Commission a study of CHA/Ps' EMS role.

Today, CHA/Ps are a crucial element in the delivery of EMS in Alaska; however, the impact of this role on individual CHA/P providers is little understood. The lack of information and knowledge of how EMS is provided by and impacts CHA/P providers may be threatening an impressive and important healthcare program. The Department of Health and Social Services should commission an in-depth study of the CHA/P role in village and community emergency medical services.

This study is needed to support and strengthen the delivery of EMS in Native villages, understand the impact

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[46] The Airline Deregulation Act does not prohibit states from regulating and overseeing the medical care provided by air medical carriers.

[47] Institute for Healthcare Improvement. (2021). *Initiatives. Triple aim – The best care for the whole population at the lowest cost*. <http://www.ihl.org/Engage/Initiatives/TripleAim/Pages/default.aspx>.

and toll of this role on individual CHA/Ps, and better understand and learn from the deep experience of CHA/Ps in combining primary care and emergency medical services, with application to the developing areas of community paramedicine and mobile integrated health. This study should be conducted by expert researchers through a lens of healthcare, emergency medical services, sociology, and psychology.

The goals of this study should be to learn about and understand:

- The extent of the CHA/Ps' EMS role, the expectations of this role, and the specific and varied nature of this role (response, treatment, coordination of local resources, the extended care of critical patients when transport is delayed, common patient complaints or patient problems, etc.);
- The roles and overlap of EMS and primary care;
- The motivation or calling to the role; the satisfiers and dissatisfiers, and the needed intrinsic and extrinsic rewards, along with common reasons for leaving the role;
- Preparation for the EMS role and its effectivity especially in the emotional and psychological demands of the role;
- The emotional and psychological impact of the role;
- Determinants of role longevity;
- Personal safety issues associated with this role;
- The impact of conducting resuscitation procedures in remote environments and pronouncing death;
- How to improve the role as well as support CHA/P wellbeing.

This study will have implications for EMS, mobile integrated health, community paramedicine, and primary care in rural areas throughout the world.

## 8 Invest in ongoing leadership development at all levels.

Today, EMS leadership development is not a regular offering in Alaska. For the past two decades, however, the management and leadership of out-of-hospital emergency medical services at all levels in Alaska has demanded higher levels of preparation and skill. With workforce and funding challenges, the decline of volunteerism, the ongoing regionalization and consolidation of rural healthcare resources, and increasing expectations for pandemic and disaster preparedness, the role of EMS leaders is key to the success of EMS. Leadership is needed at all levels, including: agency leadership, regional coordinators, regional directors, medical directors, state leaders, and educators. Effective leadership is rarely innate and needs to be developed.

Leadership development concerns the ongoing learning, growth, and maturity needed to be influential in moving others toward a destination. This process is never a one-and-done proposition. Alaska should invest

in ongoing leadership development that is viewed, valued, and made available in the same manner as its many clinical development opportunities. Leadership development programming should be offered in three important areas:

1. An introduction to EMS leadership principles and practice  
This foundational course in the basics of influencing others and leading people and organizations should be made available and an expectation of all EMS leaders in the state. The course should be available on a regular basis.
2. Regular EMS leadership workshops  
These topical workshops should be offered throughout the state and at EMS conferences and be designed to address relevant and pressing leadership issues (i.e., how to lead today's workforce, how to motivate support for EMS, etc.).
3. Support and mentoring for leaders  
1.Experienced and seasoned leaders should be available through a mentoring program to help emerging leaders. At a state or regional level leadership retreats should be offered in relaxed and inviting settings to share, support, and encourage ongoing leadership growth.

## 9 Establish regular statewide EMS workforce planning.

Today there is no orchestrated EMS workforce planning in Alaska. Workforce shortages are the most consistently identified concern of informants in this study. Along with this concern are issues related to recruitment, retention, diversity, and having enough workers to fulfill the mission of providing quality emergency care. Despite these concerns, EMS agencies and leaders receive little guidance on workforce planning.

Workforce planning is a process of turning what is known or can be learned about a workforce into plans, activities, and tools that help ensure enough workers are available to meet demand at each practice level. At its core, workforce planning is a methodical process of measuring the difference in magnitude between the current workforce and the predicted future demand for workers. Based on the size of this difference, steps can be taken by local agencies, systems, and states to meet the future demand for workers. Workforce planning can also account for other important factors such as the types of skills that will be required to meet a population's EMS needs and how emerging technologies will impact changes in the roles and demands of EMS workers.

Workforce planning has been used for decades within industry and business, and more recently has been widely used in government. *The Emergency Medical Services Workforce Agenda for the Future*<sup>48</sup> suggests

that workforce planning be understood and promoted by state EMS offices and that state EMS officials use the broad principles of workforce planning. This includes the dissemination of educational programs, materials, guides, tools, and resources among EMS agencies to assist with local workforce planning.

Alaska EMS workforce planning would focus on issues such as:

- Recruitment and retention
- A homegrown workforce vs. bringing workers from the lower 48
- Reciprocity
- Workforce diversity
- Use of volunteer workers
- Development of an EMS staffing corps for rural locations
- Compensation (including compensation of volunteers)
- Assessment of future supply and demand
- Assessment of changing roles
- Impact of changing technology
- Staffing configurations and patient outcomes
- Staffing configurations and job satisfaction

Alaska should seek to follow a typical workforce planning model that includes the following elements:

- Current data on workforce supply (number of workers, number of students in the pipeline) and demand (vacancy; turnover rates; etc.)
- Worker compensation, including pay, benefits, and other incentives
- "Environmental" factors, including:
  - Geographic factors and population demographics that impact the need for emergency medical services;
  - Regulations; and
  - Numbers and types of other providers needed in each region
- Economics and cost analysis, including budget considerations
- Evaluation of the workforce planning model to determine that objectives are being met

More information on workforce planning can be found in *The Emergency Medical Services Workforce Agenda for the Future*.<sup>49</sup>

## 10 Invest in provider wellbeing, mental health and resilience.

Today the mental health and emotional and psychological wellbeing of Alaska EMS providers is a significant concern. Informants for this study express concern about preventing psychological breakdown, but also a

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[48] National Highway Traffic Safety Administration. (2011). *The emergency medical service workforce agenda for the future*. U.S. Department of Transportation. [https://www.ems.gov/pdf/2011/EMS\\_Workforce\\_Agenda\\_052011.pdf](https://www.ems.gov/pdf/2011/EMS_Workforce_Agenda_052011.pdf).

[49] Ibid.

strong desire to prepare and support EMS providers and CHA/Ps in cultivating resilience and wellbeing over the long haul. Informants acknowledge the need to help EMS providers and CHA/Ps cope with challenges associated with short staffing, the pandemic, caring for family and friends, organizational drama, difficult calls, and what was characterized as burnout.

Informants suggest wellbeing and resilience need the same attention and time as that given to training and practice on clinical issues, equipment, and operations. There appears to be a need for ongoing programming that assists agencies, organizations, and regions in creating environments where emotional and psychological wellbeing is common, normalized, regularly discussed, encouraged, and supported. There is a need for foundational education, as well as EMS-savvy professional resources (therapists, counselors, psychologists, psychiatrists, and substance abuse treatment programs) readily available to providers when needed. These needs are not generally part of the scope of Alaska's Critical Incident Stress Management (CISM) system and remain largely unmet.

A current understanding of EMS, first responder, and healthcare worker wellbeing suggests the following:

- The nature of EMS work presents emotional and psychological wellbeing opportunities and challenges. EMS providers hope the role and work will lead to a fulfilling, satisfying, and consequential experience; however, many find these rewards are neither automatic nor easy – especially in today's environment. The responsibilities, necessary mindset, stress, and risks can negatively impact the provider's emotional and psychological health if not counterbalanced with the practices and habits of wellbeing.
- Most mental health programming in EMS focuses on preventing overwhelming stress, depression, anxiety, PTSD, and suicide. This programming does not meet the needs of many providers and is often seen as not applicable and not needed. The most significant emotional challenges for Alaska providers are those that result from: shortages in staffing (often with a few people carrying most of the workload); constantly being on call; caring for patients who are acquaintances, friends, or family; long hours and transports; operating in environments where wellbeing is not discussed, supported, or modeled; navigating the interface between home life and EMS work; increasing demands associated with training, certification and recertification, and long-distance transports; and dealing with organizational drama and community politics.
- Research demonstrates a correlation between wellbeing and preparation and support. Research also suggests emotional and psychological wellbeing is an ongoing and regular practice that involves daily choices and discipline. Such wellbeing thrives in an environment where such practices are normalized, encouraged, modeled, discussed, and supported with ongoing learning and experimentation.<sup>50</sup>

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[50] Wild, J., El-Salahi, S., Esposti, M.D. (2020). The effectiveness of interventions aimed at improving well-being and resilience to stress in first responders: A systematic review. *European Psychologist*, 25(4), 252–271. <https://doi.org/10.1027/1016-9040/a000402>; Crane, M.F., Falon, S.L., Kho, M., Moss, A., Adler, A.B. (2021). Developing resilience in first responders: Strategies for enhancing

- Many EMS providers know the general principles of taking care of themselves and fostering wellbeing. However, they do not practice these principles. These principles are not social norms in their peer groups. They receive little ongoing encouragement, support, guidance, and instruction in living well and counterbalancing the psychological demands of the first responder role.
- Many local EMS agency leaders are not prepared to lead a culture of wellbeing.
- Providers are more likely to practice wellbeing and self-care in environments where self-care and living well are regularly encouraged, supported, discussed, and modeled.
- Local agencies need guidance, support, and learning that can come to them (via a visiting instructor or guide or through online education and encouragement).
- Local EMS agencies occasionally need to refer personnel to professional psychological resources and need EMS-savvy resources within Alaska who understand EMS providers and are comfortable working with them.

Alaska should work to create programming that seeks to encourage wellbeing within local EMS agencies, Tribal Health Organizations using CHA/Ps, and within the EMS Regional offices. This programming should be ongoing and available to all local EMS agencies, providers, and CHA/Ps.

This programming should include the following elements:

- An understanding of emotional and psychological wellbeing and resilience. Wellbeing programming must be rooted in science, best practices, and an understanding of provider behavior, attitudes, and skepticism.
- The development of a foundational course in EMS Wellbeing. This course will be the starting point for every EMS agency, provider, and CHA/P, and will be a requirement of certification in Alaska.
- The inclusion of wellbeing and resilience training in all basic ETT and EMT training.
- The creation of a Statewide Wellbeing Support Team that works with or is part of CISM resources. Members of the Wellbeing Support Team may be, or may become, part of the state's CISM team.
- Local agencies need guidance, support, and learning that can come to them (via a visiting instructor or guide or through online education and encouragement). This will ensure that there is a common understanding of each team's philosophical approaches and there is no conflict in messaging to EMS agencies and providers.
- The provision of ongoing support and education. Members of the Wellbeing Support Team will

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psychoeducational service delivery. *Psychological Services*. Advance online publication. <https://doi.org/10.1037/ser0000439>; Blumberg, D.M., Giromini, L., Papazoglou, K., Thornton, A.R. (2020). Impact of the HEROES project on first responders' well-being. *Journal of Community Safety and Well-Being*, 5(1), 8-14. <https://doi.org/10.35502/jcswb.116>; Casey, G.W., Jr. (2011). Comprehensive soldier fitness: A vision for psychological resilience in the U.S. Army. *American Psychologist*, 66(1), 1-3. <https://doi.org/10.1037/a0021930>.

be prepared to provide ongoing support and education to local EMS agencies.

- The creation of a list of professional resources. Occasionally, EMS providers in Alaska will need professional help with issues such as overwhelming stress, depression, anxiety, relationships, and substance abuse. It is vitally important that EMS providers are referred to and treated by therapists, counselors, psychologists, psychiatrists, and recovery programs who understand first responders and the unique characteristics of emergency work.

# APPENDIX A

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## APPENDIX B

State of Alaska EMS by Region, as of August 2021:

EMS Region	Structure	Population	State-certified EMS Agencies	Approx. Call Volume/Year
Interior	Non-profit corporation	100,000	18	7,000
North Slope	Borough	10,000	1	2,500
Northwest Arctic	Tribal corporation	8,000	1	3,000
Norton Sound	Tribal corporation	10,000	2	1,000
Southeast	Non-profit corporation	74,000	16	5,000
Southern	Non-profit corporation	487,000	30	48,000
Yukon-Kuskokwim	Tribal corporation	26,000	1	2,500