



Department of
**Emergency
Medical Services**

2019 ANNUAL REPORT



Skagit County Emergency Medical Services
2911 East College Way, Suite C
Mount Vernon, WA 98273

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Introduction

The Skagit County Emergency Medical Services (EMS) Department is an oversight, quality assurance, and support agency that serves the residents and visitors of Skagit County by: monitoring the performance of contracted county EMS providers, facilitating a standardized countywide patient care reporting system, and providing a standardized EMS ongoing training and evaluation program. Other responsibilities include overseeing EMS credential initial issuance and recertification, and providing administrative support to the EMS Physician Medical Program Director.



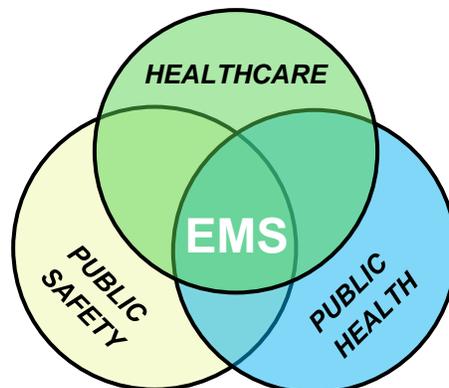
Our Mission

To support a system of innovative, patient-centered, pre-hospital care through:

- Supervision of initial and ongoing EMS education and training for Skagit County EMS personnel
- Support of public access to health, safety, and injury prevention training programs
- Development and implementation of patient care protocols and standard operating guidelines
- Data collection and analytics, system-wide focused initiatives and quality assurance measures
- Collaboration and participation in local, regional, and state stakeholder groups

Our Vision

Assuring a comprehensive, reliable, and sustainable EMS system based on continuous quality improvement, clinically exceptional and culturally competent care for our community.



Director's Message

I am pleased to present the Emergency Medical Services (EMS) Department 2019 Annual Report to the Skagit County Board of Commissioners.

This report provides an overview of the wide range of projects and activities that, together, allow our EMS system to provide the best possible care to the citizens and visitors of Skagit County. 2019 brought some significant changes to the EMS system in Skagit County, and I would like to highlight just a few of our collective accomplishments.

Thanks to the collaborative efforts of the Anacortes, Burlington, Mount Vernon, and Sedro-Woolley Fire Departments, and Aero Skagit Emergency Service, we completed a transition to a fire-based EMS delivery system on January 1, 2019. The system was designed to provide efficient EMS coverage through geographic response areas across the entire county. Through this transition, we were fortunate to retain a majority of the skilled and experienced Paramedics who have been providing care in Skagit County for many years.

Another component of the new EMS delivery model is an updated EMS continuing education program based on a regional training hub concept. The training hub model ensures a level of consistency in training delivery and promotes positive agency cooperation by providing opportunities for agencies who respond to EMS calls together to also train together on a regular basis.

Early this year, under the guidance of our Medical Program Director, Dr. Matthew Russell, we rolled out the training and implementation of an alternative rescue airway device for use by EMTs and Paramedics. Advantages to this device include its simplicity, safety, and speed. It is also widely used in prehospital medicine in the UK and Australia and is quickly becoming a preferred rescue airway device in the United States, including several other counties in Washington State.

In response to Skagit County Ordinance #O20190001 (sometimes referred to as "the Opioid Reporting Ordinance") we partnered with Skagit County Public Health to extract relevant data points on known and suspected Opioid Overdose incidents encountered by EMS personnel through our electronic patient care reporting system. Using this information along with information provided by the coroner's office, law enforcement, hospitals, and other healthcare providers, we can better understand the impact of Opioids on our community. This data is critical in the development of effective programs to make treatment available to individuals and reduce harm to the public.

Finally, I want to recognize the hard work and dedication of the 31 Emergency Medical Responders, 312 Emergency Medical Technicians, 74 Paramedics, and the many volunteer firefighters in Skagit County who work together to answer the call 24 hours a day, 7 days a week, and 365 days a year. We look forward to the New Year and continued collaboration in meeting the health and safety needs of the Skagit County community.



A handwritten signature in black ink, appearing to read 'J. Pelonio'.

Josh Pelonio, NREMT, MPO
Director
Skagit County EMS



EMS Department Overview

In addition to medical oversight and system-wide quality assurance, the EMS Department is responsible for overseeing the training, certification, recertification, and administrative support of 25 agencies and more than 400 credentialed EMS providers across the county. This can only be accomplished with a devoted team of professionals.

In 2019, the EMS Department staff included (1) full-time Director, (1) full-time Administrative Coordinator, (1) full-time Training & QA Specialist (formerly EMS Provider Liaison/Training Coordinator), and (4) part-time EMS instructors. The EMS Office is also contracted with (1) Physician Medical Program Director, (1) Physician Medical Program Director Delegate, and (1) Projects Manager.

Staff:

Josh Pelonio, EMT	Director
Freya Peebles	Administrative Coordinator
Mike Kirkman, EMT	Training & QA Specialist
Earl Klinefelter, EMT	Part-time EMS Instructor
Julie Heim, EMT	Part-time EMS Instructor
Martin Varrelman, Paramedic	Part-time EMS Instructor
Isle Lindall, EMT	Part-time EMS Instructor

Contractors:

Dr. Matthew F. Russell, MD	Physician Medical Program Director
Dr. Rachel Mank, D.O.	Physician Medical Program Director Delegate
Renata Maybruck	EMS Projects Manager

The EMS Department administrative office is located at 2911 East College Way, Suite C in Mount Vernon, WA. This space also houses Skagit 911, the Skagit County Department of Emergency Management, and a shared training space.



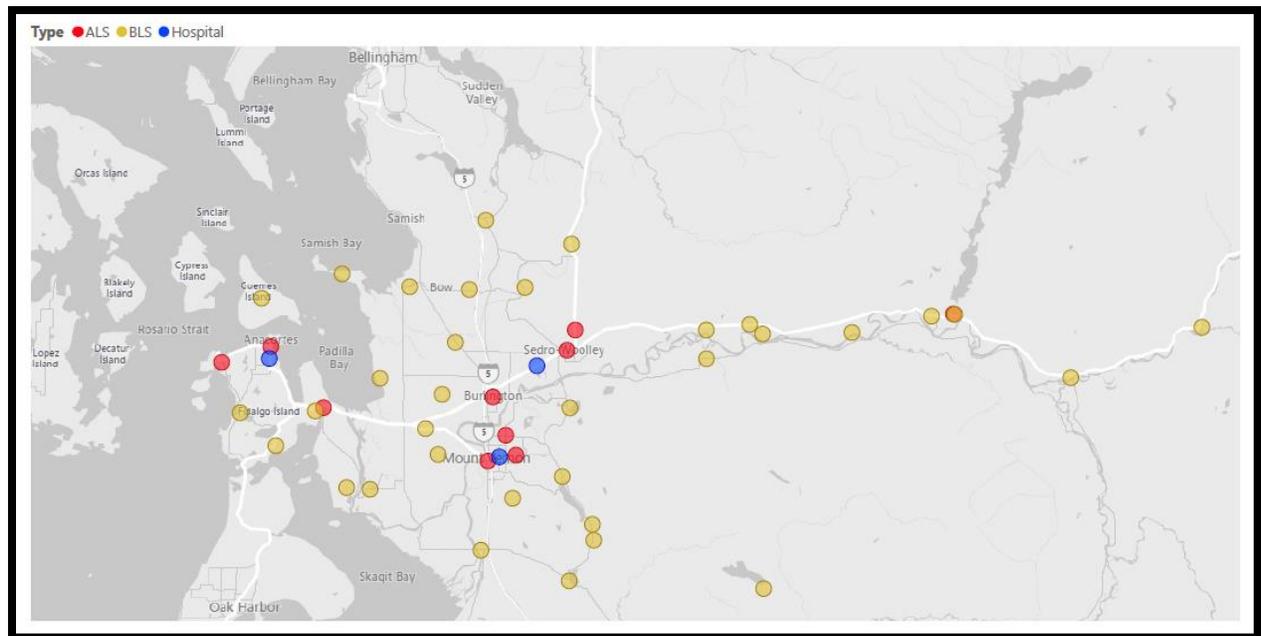
EMS System Overview

Primary Advanced Life Support (ALS) first-response and BLS/ALS transport is provided by 4 City Fire Departments and 1 non-profit ambulance service:

- Aero Skagit Emergency Service
- Anacortes Fire Department
- Burlington Fire Department
- Mount Vernon Fire Department
- Sedro-Woolley Fire Department

Basic Life Support (BLS) first-response and support is provided by 22 Fire Districts, Towns, and other agencies:

- | | |
|-----------------------------------|-----------------------------------|
| ➤ Skagit County Fire District #2 | ➤ Skagit County Fire District #13 |
| ➤ Skagit County Fire District #3 | ➤ Skagit County Fire District #14 |
| ➤ Skagit County Fire District #4 | ➤ Skagit County Fire District #15 |
| ➤ Skagit County Fire District #5 | ➤ Skagit County Fire District #16 |
| ➤ Skagit County Fire District #6 | ➤ Skagit County Fire District #17 |
| ➤ Skagit County Fire District #7 | ➤ Skagit County Fire District #19 |
| ➤ Skagit County Fire District #8 | ➤ LaConner Fire Department |
| ➤ Skagit County Fire District #9 | ➤ Concrete Fire Department |
| ➤ Skagit County Fire District #10 | ➤ Hamilton Fire Department |
| ➤ Skagit County Fire District #11 | ➤ Shell Puget Sound Refinery |
| ➤ Skagit County Fire District #12 | ➤ Skagit County Search and Rescue |



Skagit County has three hospitals that typically receive patients transported by EMS agencies:

- Skagit Valley Hospital is a level III trauma facility located in the City of Mount Vernon.
- PeaceHealth United General Hospital is a critical access hospital located in the City of Sedro-Woolley.
- Island Hospital is a level III trauma facility located in the City of Anacortes.



EMS Personnel Training and Education

Skagit County EMS sponsors members of Skagit County Fire/EMS agencies to attend an “enhanced” initial EMT training course held at Skagit Valley College. The course includes over 100 additional hours beyond the state required minimum and results in 3 additional college credits (15 total) upon completion than a traditional EMT course. In addition to opportunities for clinical rotations both in our local hospital emergency departments and riding with EMS provider agencies, students also spend time in a high-fidelity simulation lab. The sim lab provides a unique opportunity for students to practice assessment and intervention skills in a realistic, but controlled environment.

EMS continuing education for Basic Life Support (BLS) personnel is developed by the EMS Department in conjunction with Medical Program Director, state and national EMS education standards, and delivered using an online learning management platform. In 2019 we began authoring our own online modules that are customized to Skagit County protocols and procedures. Practical skills labs are completed on a quarterly basis using the regional training hub model supported by a team of approximately 60 Washington State Department of Health certified EMS Instructors within Skagit County.



31 New EMTs Trained in 2019



EMS continuing education for Advanced Life Support (ALS) personnel is provided primarily through monthly interactive case review sessions presented by Dr. Russell and Dr. Mank, supplemented by quarterly practical skills labs provided by experienced Paramedic instructors. Comprehensive case review allows EMS providers to learn from each other’s experiences and to follow a case from beginning to end, including a final hospital diagnosis and outcome, when available.

Other EMS Continuing Education courses available to Skagit County EMS personnel in 2019 included:

- Advanced Cardiovascular Life Support (ACLS)
- Pediatric Advanced Life Support (PALS)
- Prehospital Trauma Life Support (PHTLS)
- Advanced Medical Life Support (AMLS)
- Essentials of Advanced Airway Management™
- The Difficult Airway: EMS™
- Basic EKG and Pharmacology



Multiple Casualty Incident Plan and Scenes of Violence Policy

A multiple casualty incident (MCI) is one in which emergency response resources such as personnel and equipment, are overwhelmed by the number and/or severity of patients. In 2019 a stakeholder group met regularly to review and revise the Skagit County Multiple Casualty Incident plan. The plan was adopted by the Skagit County Fire Chiefs Association in December. The next step is to develop and implement MCI training for all EMS provider agencies and partners including our hospitals, Skagit 911, the Department of Emergency Management, and the Coroner's Office to ensure interagency cooperation and coordination during large scale operations when traditional emergency response resources are overwhelmed.

Concurrently, a draft Scenes of Violence Policy was developed with collaboration between Fire/EMS and law enforcement agencies to provide a framework for a regional approach to responding to scenes of violence in mutual aid jurisdictions and ensuring integrated and interoperable incident command and communications. Ongoing training to incorporate the components of the plan into practice is essential for the successful mitigation of this type of incident.

In December 2019, the Anacortes Fire Department led a morning classroom training on the Scenes of Violence Policy, outlining operational objectives from both the Fire/EMS and law enforcement perspectives followed by a full-scale exercise in the afternoon. Participants included personnel from Anacortes Fire Department, Anacortes Police Department, Skagit County Sheriff's Office, and Skagit County EMS.



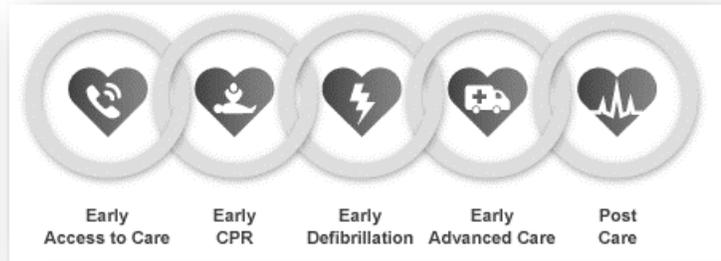
Lessons learned from this training exercise will be used to further refine the policy and to develop additional training for all EMS personnel in the County. The development and implementation of county-wide MCI plan and Scenes of Violence policy training is a priority for Skagit County EMS in 2020.



High School and Public Training

House Bill 1556 (2013) requires all high schools in Washington State to provide CPR/AED instruction as part of the health curriculum. Skagit County EMS supports the provision of this training as an essential component in the cardiac arrest chain of survival. Each of the 5 regional training hub agencies provide CPR/AED training in their local high schools on a regular basis to meet this graduation requirement.

In addition to high school training, each training hub provides a variety of CPR/AED and Basic First Aid Training to the public multiple times per year.



The American College of Surgeons Stop the



Bleed® program has trained over 1 million people worldwide in the basics of bleeding control in a severely injured person. Classes are offered at both Skagit Valley Hospital and Island Hospital on a regular basis.

Late in 2019, Skagit County EMS began offering additional monthly Stop the Bleed® courses for the public.



In October, staff from the EMS Department and Skagit County Fire District 5 / Edison Fire Department assisted members of the North Region EMS and Trauma Care Council with training nearly 200 school nurses from around the state in bleeding control basics.

Skagit County EMS also provided information on Stop the Bleed® training at several community events including National Night Out in Anacortes and the Community Disaster and Emergency Preparedness Fair at Skagit Valley College.



2019 Training by the Numbers

Table I: High School and General Public Health & Safety Training Hours Delivered

Class Type	Number of participants	Number of hours per class	Total Hours
High School CPR/AED	1281	3	3,843
Public CPR/AED with Basic First Aid	318	5	1,590
Public CPR/AED	96	3	288
Public Basic First Aid	29	2.5	72.5
Public Bleeding Control Basics (Stop the Bleed®)	31	1.5	46.5
		2019 Total:	5,840

Table II: EMS Personnel Training Hours Delivered

Class Type	Number of participants	Number of hours per class	Total Hours
Advanced Cardiovascular Life Support (Refresher)	19	8	152
Pediatric Advanced Life Support (Refresher)	25	8	200
Prehospital Trauma Life Support	14	16	224
Advanced Medical Life Support	10	16	160
Essentials of Advanced Airway Management™	11	6	66
The Difficult Airway: EMS™	28	16	448
Basic EKG and Pharmacology	9	4	36
Physician-facilitated Run Review	376	2	752
Practical Skills Labs	1,052	3	3,156
Various Asynchronous Distance Learning Modules	498	Variable	1,716
		2019 Total:	6,910



Medical Quality Assurance / Quality Improvement

Quality Assurance (QA) in Emergency Medical Services refers to the process by which the performance of EMS agencies and individual personnel is monitored to ensure compliance with established treatment protocols and approved standard operating guidelines.

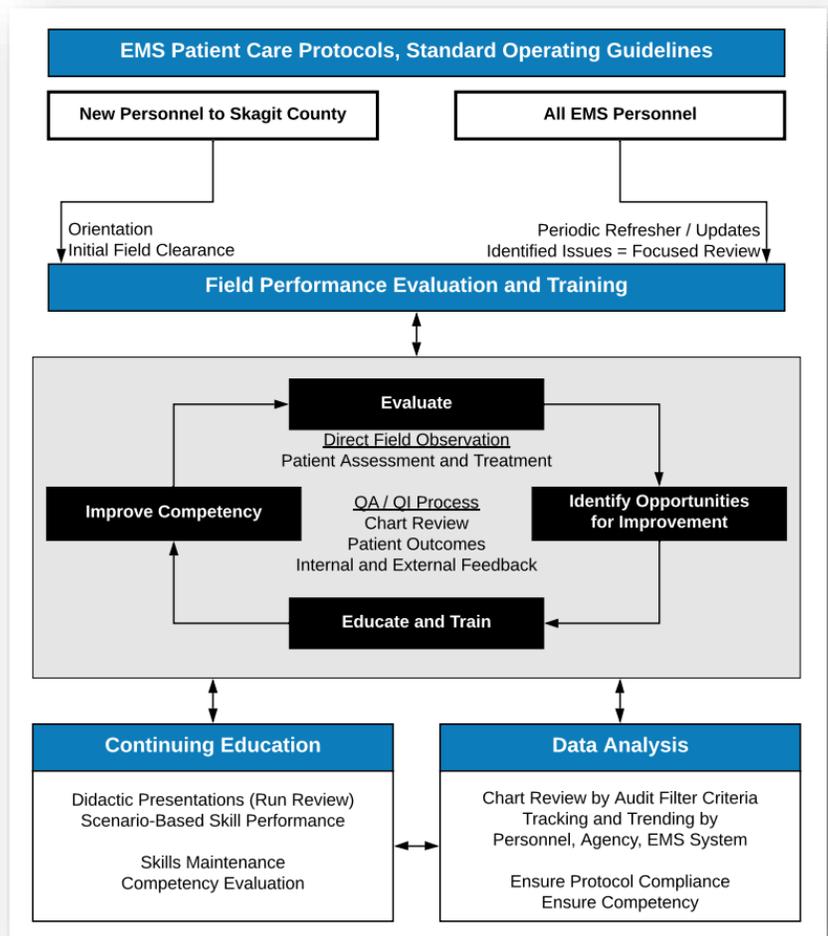
Quality Improvement (QI) refers to the continuous monitoring of the EMS system as a whole to identify opportunities in treatment protocols, standard operating guidelines and training priorities in order to better meet performance expectations. The QI process focuses on improving the process and implementing incremental system changes when needed.

QA/QI Core Concepts

“How are we doing?”
“Can we do better?”
“Can we be more efficient?”
“Can we be more effective?”

QA/QI is closely tied to EMS continuing education and ensuring skill competency. A core group of EMS agency and county QA/QI representatives, including our Physician Medical Program Director, meet on a monthly basis to review trends in patient care performance identified through an agency level templated case review process. Agencies bring unique cases, cases requested by personnel, and cases requiring additional review for discussion and Medical Director feedback.

The Institute for Healthcare Improvement (IHI) released what was known as the “Triple Aim” operational measures for healthcare improvement in 2007. The “Triple Aim” is now commonly known as the “Quadruple Aim” and includes: enhancing the patient experience, improving population health, reducing healthcare cost, and improving the work life of health care providers. This “Quadruple Aim” is widely accepted as a compass to optimize health system performance.



Skagit County EMS personnel are often the “gatekeepers” of the healthcare system and uniquely positioned to bring innovative practices to our community with the potential for significant benefits and improved patient outcomes. As our EMS system continues to grow and develop in 2020, we will continue to look for strategic partnerships and ways to better align with these principles.



EMS and Trauma Care Council Advisory Board

The Skagit County Emergency Medical Services and Trauma Care Council Advisory Board was established by Resolution signed by the Skagit County Board of Commissioners on February 19, 2019. The board's function is to provide input to the EMS Director, Skagit County, and the North Regional EMS & Trauma Care Council in relation to such matters as reviewing and recommending new initiative funding proposals, approving Advance Life Support (ALS) and Basic Life Support (BLS) licenses to operate in the County, grants, prevention, and education topics for EMS.

Members are appointed by the Skagit County Board of Commissioners. The advisory board consists of fourteen volunteer representatives from various, knowledgeable EMS groups including: (2) local hospitals, ALS, (2) transport providers (1) BLS transport providers, (1) rural fire responder or agency designee, (1) Skagit County Medical Program Director or designee, (1) Skagit County EMS Director, (1) consumer, (3) elected officials in which one shall be a Skagit County Commissioner, (1) prevention specialist, and (1) local law enforcement.

2019 Members
Lisa Edwards, Island Hospital
Brian Brice, Fire Chief, MVFD
Chet Griffith, Rural Fire Responder or Agency Designee
Joan Cromley, Mayor, Town of Hamilton
Roy Horn, Fire District 13
Sandra Jensen, Consumer
Steve Sexton, Mayor, City of Burlington
Jared Couch, Upper Skagit Tribe Law Enforcement
Tyler Dalton, Skagit Regional Health, VICE-CHAIR
Nick Walsh, Division Chief, AFD, CHAIR
David Jefferson, Population Health Trust
Skagit Co. Medical Prog. Dir. - Standing Member
Skagit Co. EMS Dir. Or Designee - Standing Member
911 Board Chair – Standing Member (Ex-Officio)
Lisa Janicki, Skagit Co. Commissioner (Ex-Officio)



2020 Strategic Initiatives

❖ **Criteria-Based Emergency Medical Dispatch Implementation**

In November 2019, the Skagit 911 Board of Directors approved an interlocal funding agreement between Skagit 911 and Skagit County EMS for the purchase and implementation of a software called ProQA by Priority Dispatch Corp. ProQA integrates with the existing Computer-Aided Dispatch (CAD) system and helps emergency dispatchers move efficiently and effectively through EMS call entry and key questioning of callers to identify the appropriate response configuration. It also provides relevant pre-arrival instructions for callers while awaiting emergency responders. Skagit County EMS and the Medical Program Director (MPD) will continue to work closely with the stakeholder group to see this project through to completion and beyond.

❖ **Implementation of New Spinal Assessment Protocol and Vacuum Spine Board Equipment**

Millions of patients are immobilized on rigid spine boards by EMS personnel every year in the United States, and only a small percentage actually have a spinal cord injury. There is increasing evidence of potential risks and morbidity associated with rigid spine board immobilization. In order to better evaluate trauma patients for potential spinal cord injury, we began training on a new protocol in 2019 that should result in a smaller number of patients requiring spinal motion restriction. In early 2020, we will begin using this new protocol along with a new piece of equipment, the vacuum spine board (VSB), which may be used as an alternative to a rigid spine board for patients requiring spinal motion restriction. The VSB is a more comfortable, and more anatomically appropriate device for transport of trauma patients with high risk for spinal cord injury.

❖ **Electronic Patient Care Reporting (ePCR) System Optimization**

The information collected by EMS personnel in electronic patient care reports can be very valuable not only to evaluate EMS system and personnel performance but also for protocol development, training prioritization, and to perform injury and illness surveillance and to better address public health concerns. In order to be useful, this data must be consistent, and complete. We continue to develop a standardized ePCR format and training curriculum for both transporting and non-transporting EMS agencies. We will also work to bring additional agencies onto the ePCR platform to meet our goal of having all county EMS agencies reporting electronically by January 1, 2021.

❖ **Updated EMS Protocols (BLS & ALS)**

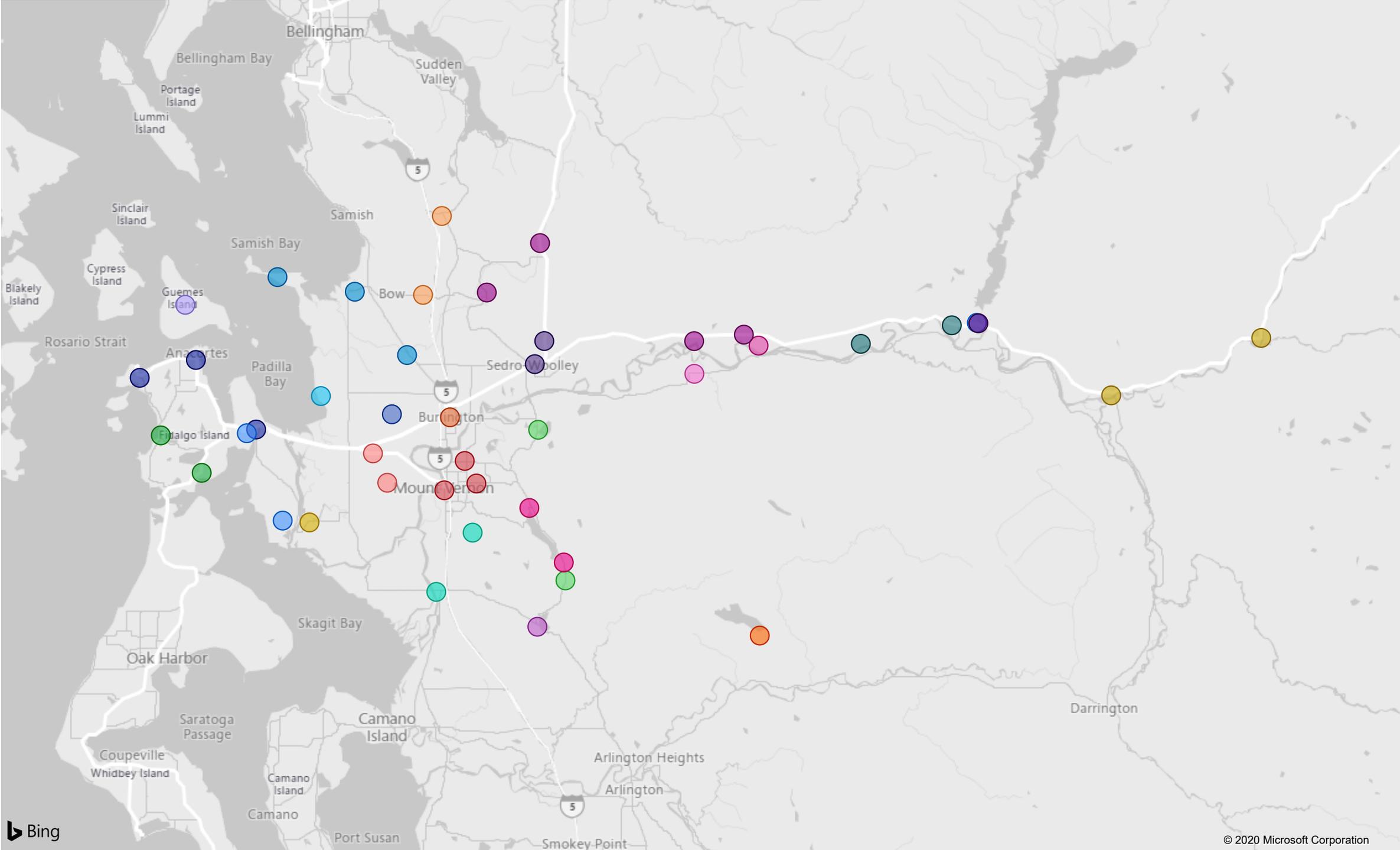
EMS patient care protocols are designed to provide a resource to clinical practice and to maximize patient care, safety, and outcomes regardless of the existing resources or capabilities within an EMS system. Evidence-based and consensus-based medicine requires periodic review and updates to these protocols and this is a priority for Skagit County EMS in 2020.

❖ **County-Wide Training on Multiple Casualty Incident (MCI) Plan and Scenes of Violence Policy**

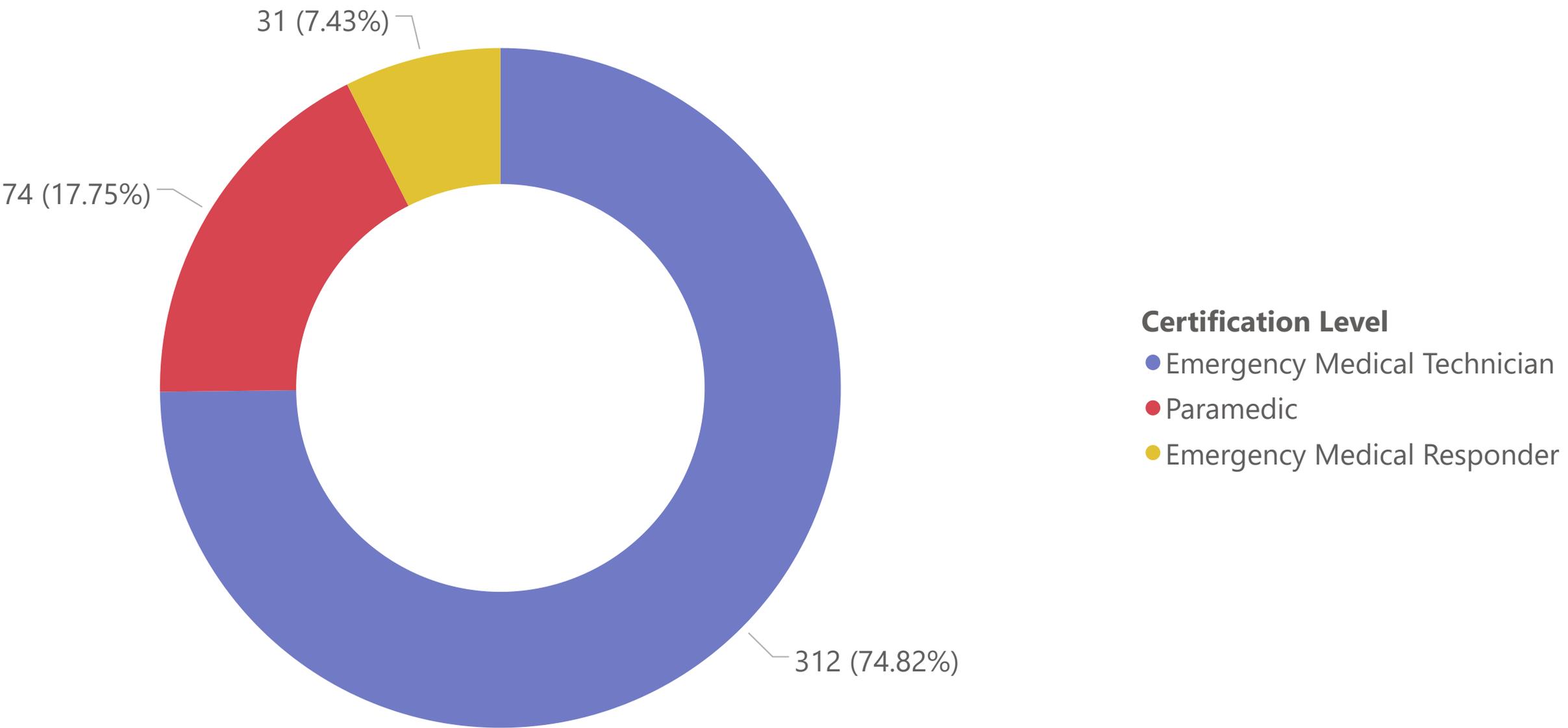
In Skagit County, multiple casualty incidents and scenes of violence are low frequency, but remain potentially high-risk. The development and implementation of this training for all EMS agencies and personnel in the county as well as partner agencies is a priority for Skagit County EMS in 2020.



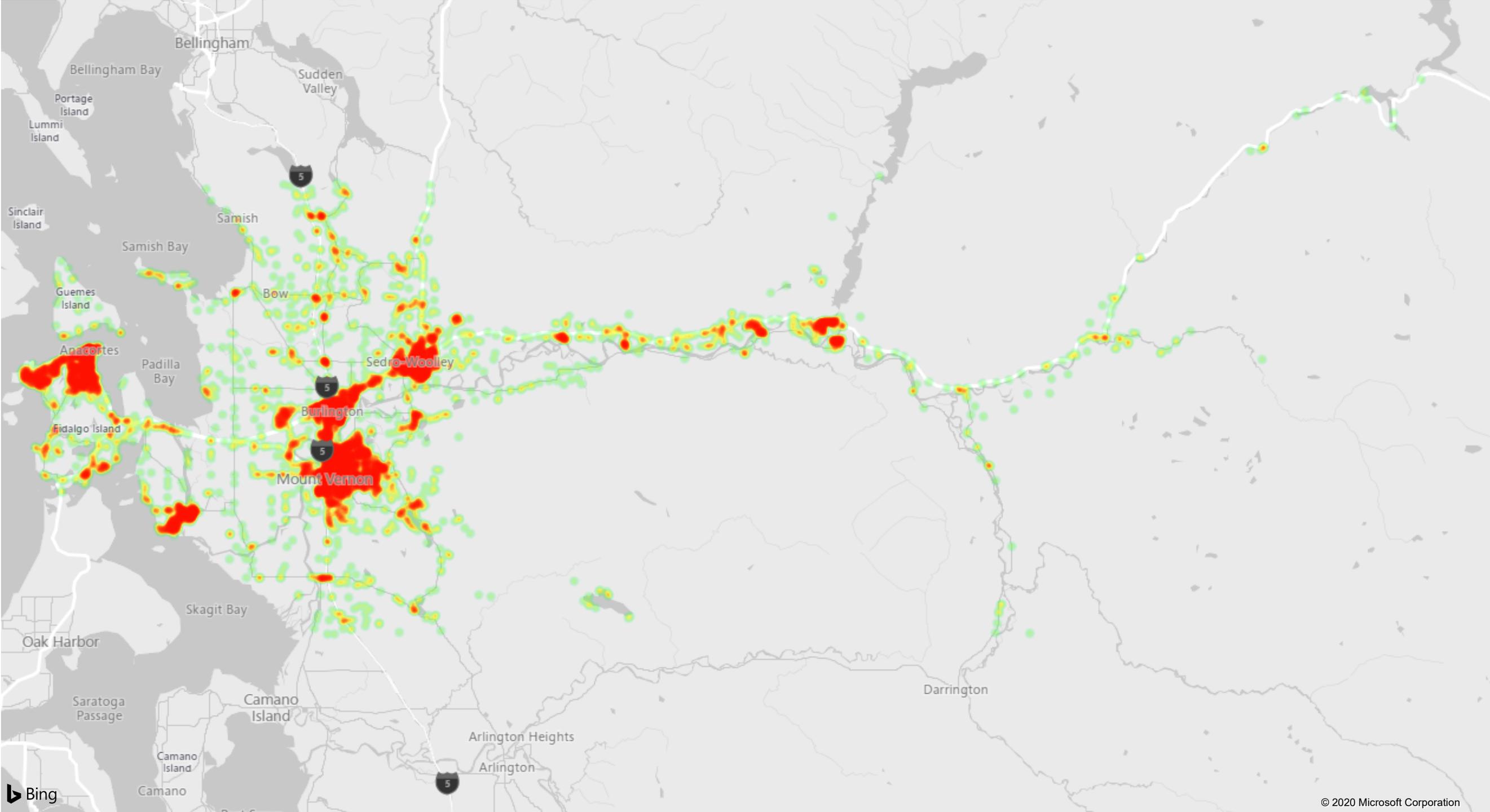
EMS Provider Agencies



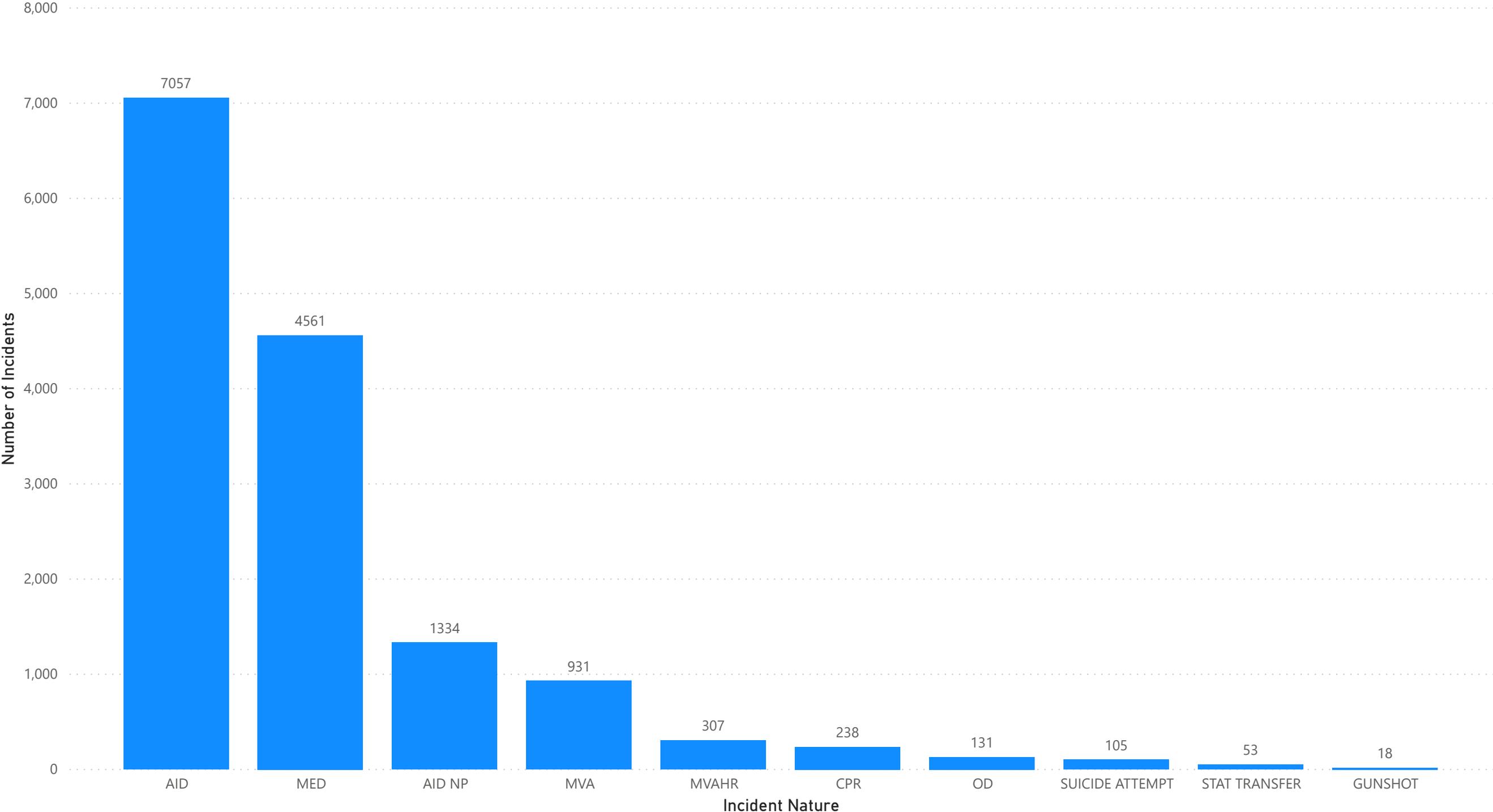
EMS Personnel by Certification Level by Certification Level



2019 Skagit County EMS Incidents



2019 Skagit County EMS Incidents by Nature



2019 Skagit County EMS Incidents by Nature and Response Area

Incident Nature ● AID ● AID NP ● CPR ● GUNSHOT ● MED ● MVA ● MVAHR ● OD ● STAT TRANSFER ● SUICIDE ATTEMPT

