The field of EMS education is transforming. As time goes by, it is becoming clear that the old method of delivering EMS education only via a conventional PowerPoint presentation is no longer efficient in instructing EMS providers. EMS educators must adapt their curriculums to online education in EMS, whether hybrid, asynchronous or synchronous.

Problem Identification

Needs Assessment

- I conducted a needs assessment through conversations with paramedics, paramedic students, and EMS administrators. I identified a need for asynchronous education and a more extended hands-on education session where providers could learn from experts and work closely with peers in real-world patient scenarios.

Goals and Objectives

Upon completion of this training, the EMS provider should be able to:
- Articulate the function of the most used mechanical ventilation settings.
- Describe the use and operation of the Non-Invasive Ventilation modes.
- Develop a treatment plan and provide ventilatory support for critically ill patients.
- Explain the common causes of Vent Alarms and develop a treatment option.
- Perform and demonstrate competency in verifying ventilator operation in the transport setting.

Educational Strategies

- Asynchronous Didactics via an LMS
  - Allows for learning of basic concepts at the student's pace.
  - Training available at all work locations.
  - Simulation/Psychomotor
    - Realism adds excellent value to the learning experience.
    - As a technique for translating knowledge and theoretical information into a practical exercise, simulation also helps trainees strengthen their abilities in the absence of direct patient contact.

Implementation

- Providers will be required to complete the didactic (asynchronous) lessons in an LMS before participating in the in-person simulation skill demonstration.
- The didactic work consists of 13 lessons and a one (1.5) hours simulation skills demonstration.
- Providers will be expected to manipulate the ventilator settings and adjust tidal volume, respiratory rate, inspiratory time, peep, oxygen concentration, compliance, and alarm settings.
- Simulation will follow four key components: Briefing, facilitate, debrief, and enduring material.

Evaluation

- The Learner’s evaluations on lectures and simulation to assess learning levels of the Kirkpatrick model.
- LMS metrics Test Analysis Report
- Summative assessment at the completion of the asynchronous didactic work.
- Ventilator Management Skills assessed during simulation utilizing a standard skills sheet for all learners.
- Online Course evaluation based on NAEMSE Rubric for Quality Online Education.