



SIMNE

Simulation In Motion-Nebraska

A Partnership for Emergency Patient Care



Annual Report

2016 – 2018



Simulation in Motion-Nebraska (SIM-NE) is a program of the University of Nebraska Medical Center (UNMC). The core mission of SIM-NE is to enhance the quality and accessibility of emergency medical education to rural/frontier areas by delivering high quality, technologically advanced simulation training to the emergency medical care providers in critical access hospitals and ambulance services across the entire state.

Executive Summary

2018 marked the first full calendar year of SIM-NE delivering high-fidelity simulation training to rural emergency health care providers across the state of Nebraska. What a year it was! Data included in the report shows the success of the program, the statewide impact and the expanded program offerings that we have provided thus far.

Organizational change was also part of 2018 for SIM-NE. In February, program manager Brian Monaghan was promoted within the UNMC system. The reporting structure of the program also changed to fall under the iEXCEL program. During the time of transition, we took the opportunity to review the organizational structure of SIM-NE. The goal was to improve efficiency to best support the program long term.

An organizational structure emerged that included the program liaison position being modified to the position of assistant manager of operations. Additionally, the position of assistant manager of administration was added to the administrative structure. Full-time regional coordinator positions were created and filled in the central, southeast and northeast service regions (with the position in the western region still working in a part-time capacity due to the workload in that region). Local, day-to-day operations are the primary responsibility of the regional coordinators, which has allowed administrative staff to focus on the long-term goals of the program.

The initial grant funding from The Leona M. and Harry B. Helmsley Charitable Trust Foundation sunsetted in November of 2018. We will maintain our current programming through private funds raised in partnership with the University of Nebraska Foundation, carryover funds through a no-cost extension from the The Leona M. and Harry B. Helmsley Charitable Trust Foundation and training partnerships. With UNMC leadership, we continue to develop our long-term sustainability plan to ensure free, accessible training throughout the state to Emergency Medical Service (EMS) providers and Critical Access Hospitals (CAH).

On behalf of the SIM-NE team and the University of Nebraska Medical Center, thank you to our community partners, funders, trainers and all who have participated in one of our trainings thus far. Together, we are changing the landscape of first response medical care in the far-reaching corners of our state.

Simulation in Motion-Nebraska is *“A Matter of Minutes, Miles and Medical Education.”*

Respectfully submitted,
Doug Dekker NRP, BS
Program Manager, Simulation in Motion-Nebraska



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Program Manager,
Simulation in Motion-Nebraska



Program Overview

SIM-NE continues to deliver high-fidelity simulation training to the rural emergency health care providers of the state. The program remains unique in that no other program in the state of Nebraska delivers this type of training directly to the requesting facility or department in their hometown. By delivering the training in the hometown of the trainees, SIM-NE allows providers to train with their fellow responders as a team, just as if they were responding to an actual in- or out-of-hospital medical emergency.

By the end of 2018, SIM-NE had completed almost 250 training events and trained more than 4,700 health care providers. The measurements of success are still being determined at this stage in program development and implementation. Early results support that the SIM-NE training of 4,700 health care providers has the potential to positively influence the emergency health care of tens of thousands of people across the entire state.

The program implemented a new evaluation tool that has proven to be very beneficial. Immediately after the completion of a training, the attendees are given a QR code and/or a web link to complete an electronic evaluation of the event. The results are used to evaluate and grow the program. The most valuable information gathered has been in the comments received. The feedback has reinforced what was already known: participants find the high fidelity, hands-on training increases their confidence in responding to an emergency, and the ability to train together in their local community is appreciated and beneficial.

In addition to the immediate evaluation, a second evaluation tool has been implemented. This second evaluation was distributed in the late fall of 2018. This went to all trainees who had participated in training events from August 2017 through April 2018. The goal of the second evaluation was to seek input from learners concerning their ability to retain



It's hard to put a value on training that is going to save lives across the state. Saving lives is one of the values that we are focused on at the University of Nebraska.

Hank Bounds, Ph.D.
President, University of Nebraska



and use the knowledge gained by the training they received. The first round of evaluations has been received and are currently being analyzed by the UNMC College of Public Health (COPH). Results of the evaluations are expected to be available in early February 2019.

SIM-NE is committed to growing the program in ways that increase the effectiveness of the training for our customers. Several suggestions received from the evaluations have been implemented in the delivery of training. SIM-NE is committed to providing training that is relevant and useful to health care providers and values the comments and suggestions of our trainees.

Since August 2017, when SIM-NE started delivering training in rural communities, training events were initiated by the requesting agency or facility. As the program looks to the future, steps have been taken to ensure that every rural EMS

agency and CAH has the opportunity to receive training. Starting in the last quarter of 2018, the western region coordinator started reaching out directly to agencies and facilities that had not yet requested a training event. The calls allow the regional coordinator to work directly with the agency or facility to discuss their training needs and to schedule a training event. Due to the success of the calls in the western region, the regional coordinators in the remaining three regions are set to begin making calls in early 2019.





Training Provided in 2018

The 2018 calendar year marked the first full year that SIM-NE delivered training to rural Nebraska. It was a busy year for SIM-NE, and we are hopeful that 2019 will be even busier. In the past year SIM-NE has expanded the types of trainings offered. The trainings that were “outside the box” of the primary mission training were well received. The suggestions we received in the pilot training events will allow the program to grow the content that we offer going forward.

During the 2018 calendar year, SIM-NE conducted 148 training sessions and 26 public relations or tour events. During the 148 training sessions, 2,541 healthcare professionals were trained. During the 26 public relations/ tour events, 1,255 people were able to experience the trucks.

SIM-NE has identified 439 agencies or facilities that fit into our primary mission of delivering free simulation training to rural emergency health care providers.



“ The SIM truck provides hands-on training with high-fidelity, life-like mannequins... In a controlled group setting, it reinforces teamwork and communication.

Tim Wilson

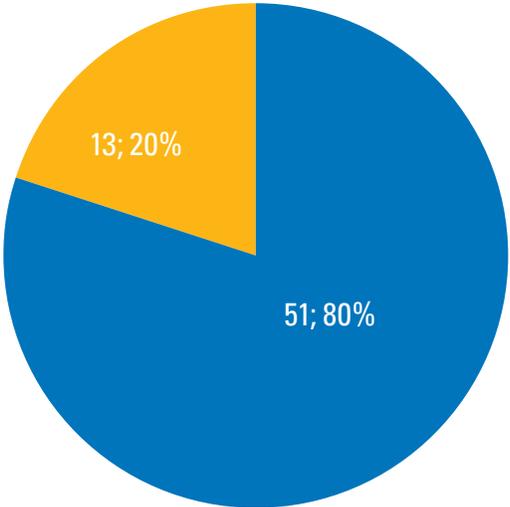
Rescue Chief & Paramedic
Syracuse Rescue Service



Of the 439 agencies or facilities that fit into SIM-NE's primary mission, 64 are CAH. The following graphs outline the number of CAH that have received training from the inception of the program through December 31, 2018.

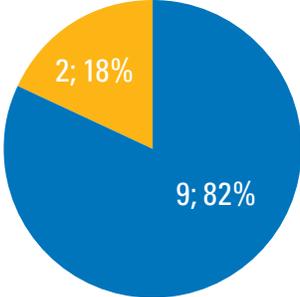
CRITICAL ACCESS HOSPITALS

ENTIRE STATE



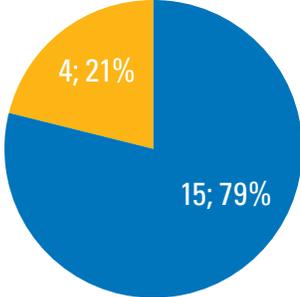
■ Training received ■ Yet to request training

WESTERN REGION



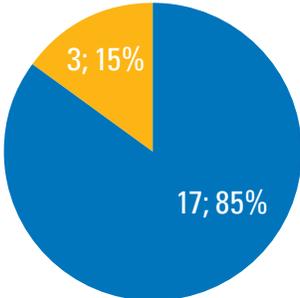
■ Training received ■ Yet to request training

CENTRAL REGION



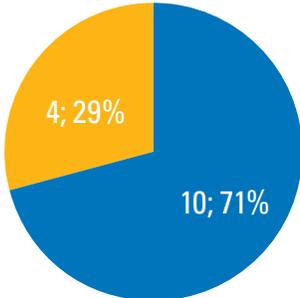
■ Training received ■ Yet to request training

NORTHEAST REGION



■ Training received ■ Yet to request training

SOUTHEAST REGION

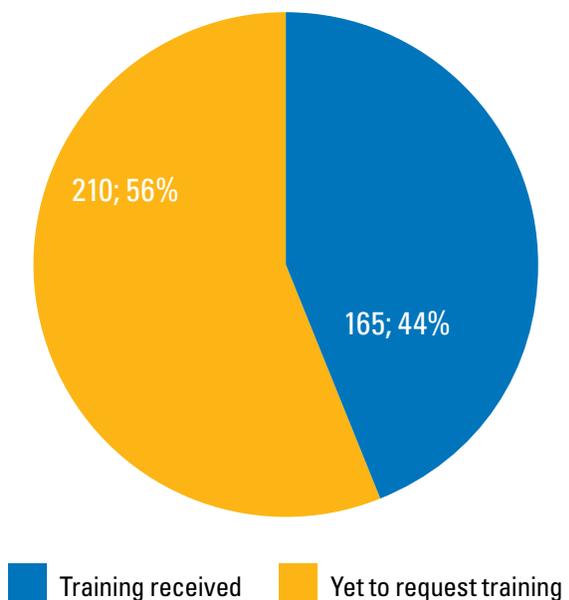


■ Training received ■ Yet to request training

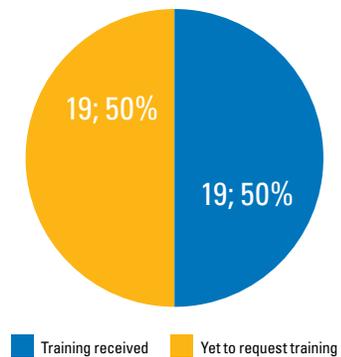
Of the 439 agencies or facilities that fit into SIM-NE's primary mission, 375 are EMS providers. The EMS agencies offer a mixture of transport and non-transport services and basic and advanced life support services. The following graphs outline the number of EMS agencies that have received training from the inception of the program through December 31, 2018.

EMS AGENCIES

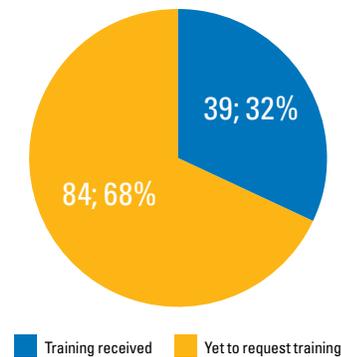
ENTIRE STATE



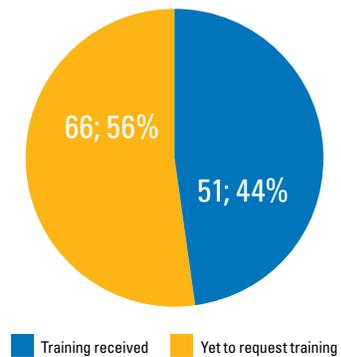
WESTERN REGION



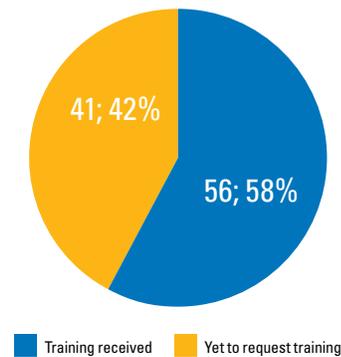
CENTRAL REGION



NORTHEAST REGION



SOUTHEAST REGION



Training Activity



8,400+ total people

SIM-NE has trained **4,674** emergency care providers including:

- Doctors
- Nurses
- Emergency medical responders
- Paramedics
- Emergency medical technicians
- Other emergency health care personnel

In addition to those trained in the trucks, **more than 3,800** people have toured one of the trucks.



42,000+ miles traveled

Longest distance traveled to provide a training was **440 miles round trip**

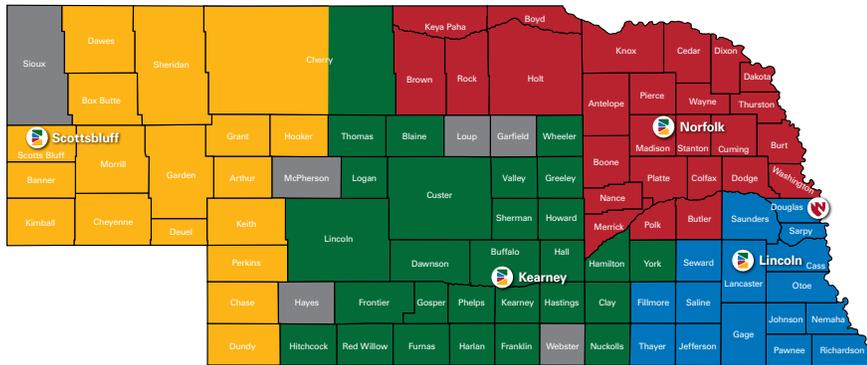


35 employed

registered nurses and paramedics as part-time field trainers

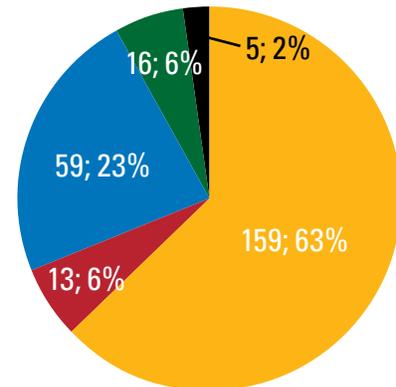
ACTIVITY BY REGION

There are **87 of the 93 counties** with at least one agency trained.



- Western – 34 events
- Central – 78 events
- Northeast – 78 events
- Southeast – 75 events

TRAINING EVENTS



- EMS specific training
- Multiple agency/other
- EMS conferences
- Pre-licensure
- Critical access hospitals



Training Events of Interest

With an eye to the future, SIM-NE conducted training events in 2018 that were outside of the realm of its “main mission” training events. As the program transitions off grant funding, the staff is looking for opportunities that allow SIM-NE to broaden its offerings. Several events were held throughout 2018 that are being evaluated as potential future offerings.

SIM-NE collaborated with the Nebraska Perinatal Quality Improvement Collaborative (NPQIC) to bring perinatal simulation to critical access hospitals. This training consisted of a didactic session followed by hands-on simulation and task training. SIM-NE assisted NPQIC with simulation scenarios that included perinatal resuscitation and difficult delivery. After completion of two state grant-funded pilot training events, a second state grant was received to present nine more events in the 2018 – 2019 grant cycle. The events were scheduled for critical access hospital locations across the entire state and were well received. Steps are being

taken to apply for a grant to present nine more training events during the 2019 – 2020 grant cycle.

A pilot training was held in conjunction with the UNMC College of Nursing (CON)-Omaha campus. This involved providing classroom training to school nurses, followed by simulation on the same topic as the classroom lecture. The training was a great success. Plans are being formulated to offer simulation training to school nursing staff statewide in 2019.

SIM-NE was invited to the Nebraska Society of Radiologic Technologists Annual Conference. Following a general session presentation by SIM-NE staff, six simulation sessions were offered in the SIM-NE vehicle. The attendees were very appreciative of the hands-on experience that they received from SIM-NE staff.

Two events centered on stroke care were held in conjunction with Nebraska Medicine. Nebraska Medicine nursing staff conducted classroom education on stroke recognition and treatment. After the classroom session, learners completed two different stroke simulations in the SIM-NE vehicle. The American Heart Association/American Stroke Association has announced a \$6.5 million statewide commitment over three years to enhance Nebraska's system for responding to and caring for people with strokes. SIM-NE anticipates participation in the simulation training of CAH and ambulance personnel concerning stroke care.

An event was held in cooperation with the Nebraska Air National Guard 155th Air Refueling Wing: Medical Detachment Group (MDG). As part of a larger training exercise, members of the MDG worked with SIM-NE to complete medical simulation training. Approximately 30 guard members, including military medics, registered nurses and doctors, completed training with SIM-NE that day.

SIM-NE worked in cooperation with the UNMC Department of Emergency Medicine to put on an outdoor training event for emergency medicine residents. Emergency medicine residents completed several stations such as treating a lightning strike victim and a victim who was suspended from a tree stand. The residents also observed as the Gretna Volunteer Fire Department extricated and treated several patients of a mock car crash. The residents were able to see how the "Jaws of Life" are used to rescue patients. The extricated patients were then transported by ambulance to the SIM-NE truck where the residents took over care. The residents were able to treat the patients in both the emergency room and ambulance sides of the truck. The residents related how beneficial it was to see what happens prior to the patient's arrival to the emergency department. They also commented on how enlightening it was to work



It was exciting for our hospital staff to experience the training with our EMTs in the simulation in motion setting. Together, they learned life-saving skills, as well as an appreciation and better understanding of each other's roles during an emergency situation. It was a great opportunity for enhancing teamwork, their expertise and the flow of Antelope Memorial Hospital's overall emergency care services.



Merry Sprout, RN

Director of Nursing
Antelope Memorial Hospital – Neligh

on a patient on the ambulance side of the truck so they could better understand how EMS providers care for patients.

SIM-NE was one of 17 agencies that participated in the Omaha Airport Authority's (OAA) triennial full-scale emergency exercise. The event was a simulated airliner crash during takeoff. One of the victims went into labor and was treated by responders in the SIM-NE truck. The responders ultimately delivered a baby in the truck as part of the exercise.

All the training events mentioned could be re-created and delivered anywhere in the state of Nebraska. The events discussed in this section are merely a small sample of the events that SIM-NE will be offering in 2019.





Public Education Events

SIM-NE continues to receive requests from various organizations that want to learn more about the trucks and the SIM-NE program in general. **There were 26 public education events where 1,255 people were able to tour a truck during the 2018 calendar year.**

Invitations are also received by SIM-NE to attend high school or community college events to help promote student interest in health care-related fields. Trainers mention to students that even if they are not interested in a health care field they should consider taking an EMT class in college. Trainers explain to the students that as an EMT they would be able to give back to their communities by volunteering for their local ambulance service. In addition to health care fields, SIM-NE staff discuss how students entering science, technology, engineering and mathematics (STEM) fields could have a career involving simulators. Students also are able to open up the simulators and see the inner workings, which drive the lifelike reactions during a simulation training.

The simulators have multiple computers that control their reactions. In addition, computer programs need to be written for every medical scenario that a simulator runs. SIM-NE staff let students interested in computer sciences know that they could find rewarding employment in the growing simulation industry.

SIM-NE has had the honor of being a part of many outstanding public education events. A few that stand out include:

- Cattlemen's Ball of Nebraska
- O'Neill Health Conference
- Nebraska Science Festival (NE SciFest)
- KANEKO Reality Exhibit
- NorthStar After School Program
- Several Nebraska Area Health Education Centers (AHEC) events





Partners, Sponsors and Supporters

The SIM-NE program is grateful to its partners, sponsors and supporters. SIM-NE would not be the hugely successful program it is without these partnerships over the past three years.

SIM-NE would like to recognize the following persons, organizations, agencies and businesses who have renewed or initiated support for SIM-NE in 2018:

- The Leona M. and Harry B. Helmsley Charitable Trust
- Milton and Miriam Waldbaum Family Foundation
- Farmers Mutual Insurance Company of Nebraska
- The Herman Foundation
- Virginia Smith Charitable Trust
- Regional West Health Services Foundation
- Thomas D. Buckley Trust
- Quivey-Bay State Foundation
- Oregon Trail Community Foundation
- COPIC Medical Foundation
- Western Nebraska Community College
- Drs. Paul and Audrey Paulman
- University of Nebraska Foundation
- University of Nebraska Medical Center
- Platte Valley Bank
- Nucor Steel, Vulcraft, Nucor Cold Finish and Nucor Detailing Center



Looking Ahead

SIM-NE has enjoyed great success in the first 16 months of the program offering training in the rural areas of the state. Our learners have provided the program with positive feedback in person and via social media and online post training evaluations. Many agencies and facilities have already requested second and third visits! SIM-NE continues to receive a large amount of press coverage with the comments being overwhelmingly positive.

The positive feedback could make it easy for the SIM-NE team to sit back and continue with the status quo as far as the program offerings are concerned. The team has no intention of relaxing and has brainstormed the future of SIM-NE with our field trainers to see what can be done to improve our offerings to the rural emergency healthcare providers.

SIM-NE administrative staff has used this learner feedback to make some exciting updates to make our simulations even more realistic. CAE Healthcare, the company that

manufactured the human patient simulators, provided onsite continuing education to our field trainers in December that focused on using the “bleeding” function of the simulators. Starting in January 2019, trainers will be able to make the simulators “bleed” during trauma scenarios, and trainees will be expected to provide hands on treatment to stop the bleeding.

SIM-NE has received some requests for topics of simulation events that we do not have pre-programmed scenarios for in our offerings. Part of CAE training was how to write and program scenarios. As requests for training are made, SIM-NE can now write a scenario to provide the requested training if one does not exist.

In the spring of 2018, a pilot training was held with school nurses from the Papillion/La Vista school district. School nursing staff treated a simulated pediatric patient with a head injury and a simulated high school age/adult patient

suffering from an accidental overdose. The event was a success, and SIM-NE has been working with the UNMC College of Nursing (CON) staff to come up with a model to take the training statewide. Planning meetings between SIM-NE and CON are still in progress, but enough feedback has been obtained to begin scheduling these training events with school nurses. Four school nurse training events have already been added to the 2019 calendar.

SIM-NE has received a grant to conduct an initial concussion training in the school system. The purpose of this grant was to see if school personnel, primarily coaches, would benefit from training on a simulated patient with a concussion. The pilot training for this event will be in February 2019. Once the data from the pilot is compiled and analyzed, SIM-NE will decide how to proceed with future trainings.

SIM-NE is working with other areas within the iEXCEL unit to bring new and innovative solutions and technology into our program. The fixed simulation facility on the UNMC Omaha and Kearney campuses use standardized patients (SPs) to assist with training. SPs are people who come in and play the part of either a patient or bystander for a scenario. SIM-NE team members feel that SPs could be used in conjunction with a simulator or as a stand-alone patient in certain scenarios. The potential use of SPs is in the initial planning stage.

SIM-NE is also looking at the possibility of supplementing training with the use of augmented reality (AR) or virtual reality (VR). As with using SPs, the use of AR and VR is in the initial planning stages. As the SIM-NE team learns more, plans will be developed as to the appropriate use of AR and VR in future offerings.

The possibilities for SIM-NE are endless, and we are excited to continue to bring top-notch technology and training to emergency health care providers across the entire state of Nebraska.



“With the advent of mobile, high-definition simulation model usage throughout the state of Nebraska through SIM-NE, our EMS providers have an opportunity to experience near real-life scenarios which will impact their ability to save lives.”

James E. Smith, MD, FACEP

Medical Director, Great Plains Health – North Platte,
Emergency Services
Chairperson, Nebraska Board of Emergency
Medical Services

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