

The Importance of Data: Developing a Health Professions Performance Assessment Model

Health professions simulation centers in the United States are not typically or routinely capturing data on trainee or practitioner performanceskills development.

A valid and reliable performance-based model of training for health professions - one that objectively captures, measures and categorizes individual and team skills development over a lifetime of practice - has yet to be developed.

While progress is being made related to reporting the impact of simulation on training and patient care outcomes, there remains a need for a universally accepted and applied health professions assessment model for skills development that can be deployed across health care disciplines. With avoidable medical errors estimated to cost the United States one trillion dollars a year, reducing errors by improving individual and team performance and functioning, can result not only in significant cost savings, but in saving precious lives.

Tracking and Reporting Return on Investment (ROI) for Health Professions Simulation Centers

At the heart of the iEXCEL* mission is improving quality and safety of health care by adopting an interprofessional, hybrid education model for training health care professionals. This model is based on adopting advanced modeling, simulation and visualization technologies and creating a performance-based approach to skills and competency assessment. In collaboration with the UNMC health care disciplines (Medicine, Nursing, Allied Health, Dentistry, Pharmacy and Public Health), iEXCEL is developing a performance-based assessment model that will be tried and tested over time.

iEXCEL is housed in a newly constructed and unique facility, the Davis Global Center. This advanced inter-professional simulation center was made possible by public-private partnerships. Reporting on the Return on Investment (ROI) in the Davis Global Center based upon the iEXCEL Measures of Success** is, therefore, a high priority. This precedence invoked the necessity to create a unique Simulation Data Capture System, and collecting data related to clear criteria became an essential undertaking. Data captured includes center usage, categories of users, costs of providing services, as well as a framework for documenting individual and team skills achievement. The goal is to demonstrate that an interprofessional model of training based in modeling, simulation and visualization improves, thereby reducing preventable medical errors.

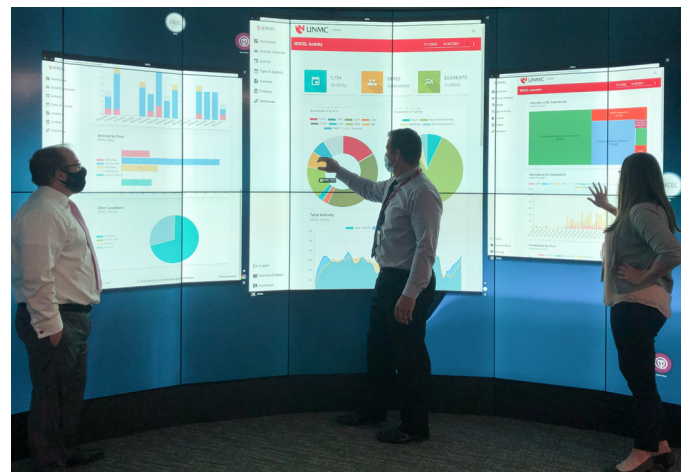
Specialized software is being deployed by an embedded team of health care simulation and technology experts. The aim is to equip simulation center leadership with highly visual, key information for decision making by providing “real time” data feedback that is accessible on their mobile devices. Providing institutional leadership with “up to the minute” access related to daily activities, as well as the results of these activities occurring within the Davis Global Center, are critical elements of this system.



UNMC Davis Global Center houses the iEXCEL Program in Omaha, NE

What is the UNMC iEXCEL NOW?

iEXCEL NOW is a simulation center platform developed as a service to faculty, hospital and university leadership. Since the opening of the Davis Global Center in March 2020, this data capture system has documented over 6,500 onsite training activities and provided over 27,000 hours of advanced simulation training.



UNMC iEXCEL Data Capture team presenting on the interactive HELIX wall at the Davis Global Center

UNMC iEXCEL Data Capture System Goals

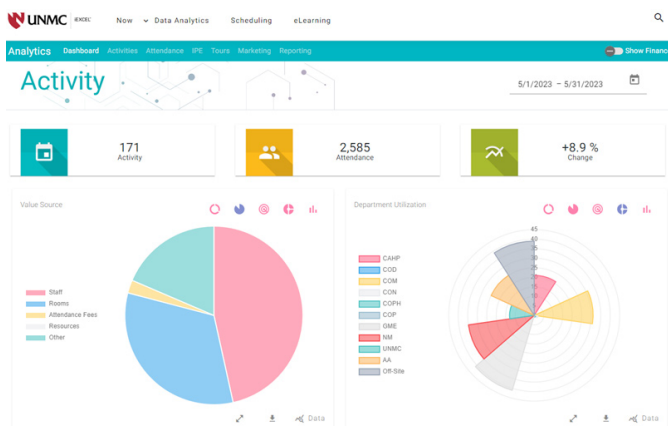
- **Mission Driven Analytics to Drive Data Decisions** – Create a data model which ties back to the iEXCEL missions and present data to make informed decision and illustrate the value of the program.
- **Implementing the Art of Data Visualization** – Take big data and visualize it within applications.
- **Data Quality Improvement & Governance** – Increase the quality of data sets through strict governance and analysis.
- **Empowering End Users** – Enable leadership, staff and subscribers by offering real-time data on multiple devices.
- **Machine Learning & Predictive Analytics** – Improve operational efficiencies and reduce operational spend.
- **Integration of AI and ChatGPT Capabilities** – Identify key problems within the health care industry and integrate AI and ChatGPT capabilities to create lifelike solutions integral to our daily life.
- **Business Mission** – Increase revenue for the iEXCEL program through product and service creation.

guarantee that health care education is relevant for the emerging health care model, key premises must first be embraced and adopted as a framework upon which to move forward. iEXCEL's aim is to save lives and avoid injuries by fostering interdisciplinary engagement among the health professions disciplines as well as engage with industry, academic, government and military partners who also seek to improve safety and quality while reducing costs of care.

**iEXCEL – Interprofessional, Experiential Center for Enduring Learning*

****iEXCEL – Measures of Success and Outcomes**

1. Reputation Enhancement
2. Interprofessional (IPE) Collaboration
3. Transformational, Experiential and Interactive Learning
4. Remote & Distributed Learning
5. Competency-Based Assessment Model for Health Professions
6. Supportive Learning Environment
7. Interdisciplinary Team Training
8. Business & Community Engagement
9. Educational and Clinical Outcome Research
10. Academic/Industry/Military Partnerships



UNMC iEXCEL Data Capture System: iEXCEL NOW

UNMC iEXCEL Closing Remarks

As the potential for improving access to health care evolves, it is critical for health care educators to ensure graduates are “performance-ready” to function in high-risk, high-volume medical settings. However, with the rapid evolution of new procedures, techniques and instrumentation, there is also a vital need for health care professionals to keep up to date and remain proficient in their professional domains over a lifetime of practice. To

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For Further Information visit: www.unmc.edu/iexcel