

TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

Simulation Centers

The F. Marie Hall *SimLife* Center, Lubbock

TTUHSC Simulation Center, Abilene

The Louise and Clay Wood TTUHSC Simulation Center,
Odessa

Strategic - Business Plan

2015-2020

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Executive Summary

Recent national societal developments to include patient safety, interprofessional education and collaborative practice, and changes in accreditation requirements mandate a radical transformation in the education of health care professionals. This transformation requires innovative teaching strategies and the integration of interprofessional concepts. Fortunately, changes in educational philosophies and regulatory requirements along with advances in technology offer simulation as one solution to these challenges. Simulated experiences, based on educational theories, use realistic equipment and supplies to assist learners in developing discipline specific and interprofessional competencies.

The Texas Tech University Health Sciences Center (TTUHSC) simulation centers, located in Lubbock, Abilene and Odessa, provide a dynamic, cost effective use of space, equipment, and personnel to support simulation-enhanced intra and interprofessional learning, assessment, and research. Although the primary individuals served by these centers are TTUHSC students, residents, practitioners and faculty; healthcare providers from the West Texas region benefit equally.

The enclosed document provides an overview of the achievements from this past year and the strategic plan for the TTUHSC simulation centers (Lubbock, Abilene, and Odessa) reflecting the next five years. The strategic plan was developed using a strength, weakness, opportunities and threats analysis (SWOT) and is aligned to the TTUHSC's mission. The financial pro forma and accompanying recommendations are based on utilization and the cost analysis of operating the centers. The document also provides a synopsis of the various simulation personnel and projected future needs.

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Key Assumptions

The sustainability of TTUHSC simulation centers (Lubbock, Abilene, and Odessa) is based on the following assumptions: TTUHSC

- expects to be a national leader in transforming the educational process of the health sciences.
- aspires to be a national leader in integrating simulation-enhanced interprofessional education throughout health sciences curricula.
- desires to maintain and enhance partnerships with both local and regional healthcare agencies.
- expects a program of research to be sustained related to the pedagogy of simulation.
- administration and faculty embrace the pedagogy of simulation for teaching, learning, and assessment.
- leadership will assist with fiscal support to advance the simulation program (Lubbock, Abilene, and Odessa).

Introduction and Overview

Mission and Vision

The simulation centers located at the Texas Tech University Health Sciences Center campuses in Lubbock, Abilene, and Odessa are multimodality and interprofessional in scope. The **mission** of the centers *is to promote simulation-based intra and interprofessional education and research for the benefit of patients, community, and health care students and professionals*. Evidenced-based activities conducted within the centers assist students, residents, and healthcare practitioners to develop and/or master the knowledge, skills, attitudes, and behaviors required to practice collaboratively in today's dynamic healthcare environment. The integration of simulation, based on educational theories, through-out various curricula supports the centers' **vision**: *Bringing Learning to Life*. The mission and vision of the simulation program supports the mission of Texas Tech University Health Sciences Center: *to improve health of people by providing high quality educational opportunities to students and health care professional, advancing knowledge through scholarship and research, and providing patient care and service*.

Overview of the TTUHSC Simulation Centers (Lubbock, Abilene, & Odessa)

The TTUHSC simulation centers provide multiple realistic healthcare environments. Each center has specific areas that represent both acute and primary care settings. The centers support formative and summative activities through various simulation modalities (e.g. partial trainers, advanced patient simulators, computer-based scenarios, haptic devices, and standardized patients.) Appendix A provides a summary of definitions and simulation modalities.

Specific areas in each center are integrated with a sophisticated digital audio-visual system. This system allows live or recorded video to be sent to individuals, classrooms, and between campuses. Information obtained through checklists, surveys and simulated electronic health records are compiled, analyzed statistically, and stored in the digital system. Lastly, the system provides the capability of developing a library of case scenarios that can be indexed for easy access.

The simulation program (Lubbock, Abilene, and Odessa) uses the Wasp Mobile Asset and Wasp Inventory Management Applications systems. Mobile Asset allows the simulation centers to maintain a running inventory of supplies. Whereas, the Inventory Management application provides the functionality to maintain a database of inventory on all campuses. Once fully implemented, both applications will help calculate a cost analysis of simulation and procedure-based learning experiences.

The F. Marie Hall SimLife Center, Lubbock campus, which opened in 2009, is a state-of-the-art 24,500 square foot center. The TTUHSC Simulation Center in Abilene opened in spring of 2013. Currently the Abilene simulation center consists of 7,320 square feet with construction of an additional 7,000 square feet to be completed by fall 2016. The TTUHSC Louise and Clay Wood

Simulation Center at Medical Center Hospital (MCH) in Odessa opened in the fall of 2013 and has approximately 13,000 square feet.

Proponents (Internal and External)

The simulation centers assist in supporting the various schools within the Health Sciences Center. Activities supported include recruitment of students and faculty, student retention, and assisting faculty in transforming the educational process for the health professions.

Recruitment initiatives for both students and faculty.

Faculty interviewed for positions at TTUHSC are currently toured through the centers. Comments from potential faculty reflect a recognition of the value-added simulation can provide to educational experiences. Potential students and families of these students are requesting tours through the facility. Comments from potential students and their families reflect these tours have a positive impact on recruiting endeavors.

Transformation of the educational process for health professionals.

Multiple government agencies and national foundations stress the use of simulation for teaching and assessing professional competencies. For example, The Institute of Medicine (2001, 2004, 2010, 2011, and 2015) specifically identified simulation as a technique to address problems related to patient safety. The World Health Organization (WHO) recommended "Health professionals' education and training institutions should use simulation methods (high fidelity methods in settings with appropriate resources and lower fidelity methods in resource limited settings) in the education of health professionals." (WHO Guidelines 2013, p.37).

Standards of Best Practice: Simulation have been published by the International Nursing Association for Clinical Simulation and Learning (2013, 2015). These standards, endorsed by interprofessional simulation organizations, include guidelines related to designing simulations, debriefing, and simulation-enhanced interprofessional activities.

The National Council of State Boards of Nursing completed a landmark, national, multi-site, longitudinal, randomized controlled trial in 2014 that explored the outcomes of substituting simulation-based experiences for actual patient care. The outcome of this study indicated up to 50 percent of traditional clinical experiences could be substituted with simulation if the following were included:

1. faculty members are formally trained in the pedagogy of simulation.
2. there is an adequate number of faculty to support the student learners.
3. subject matter experts conduct theory-based debriefing.
4. appropriate equipment and supplies are available to create a realistic environment. (Hayden, Smiley, Alexander, Kardon-Edgren, & Jeffries, 2014)

Simulation guidelines for prelicensure nursing programs have been published by the National Council of State Boards of Nursing (NCSBN) (2015). These guidelines include recommendations for the program, for faculty development, and principles to follow when using simulation.

The American Association of Colleges of Nursing's Futures Task Force (2015, July) explored the current trends and rapidly changing landscape of higher education and healthcare. The taskforce published four recommendations and 27 suggestions for organization to consider. One suggestion specifically discussed simulation which stated, "Define best practices in pedagogy, including clinical design and the use of simulation." (p.4)

1. The School of Nursing's traditional undergraduate program has modified their curricula based on the above recommendations and increased the amount of simulation-based activities through-out the program.
2. A sub-committee has been formed by the simulation program in collaboration with the School of Nursing to review the guidelines established by the NCSBN.
3. TTUHSC School of Nursing, traditional undergraduate program (Acute Care Faculty) are participating in the national pilot project, vSim for Nursing/Pharmacy funded by the National League for Nursing in partnership with Wolters Kluwer (Lippincott) and Laerdal Medical. The goal of this research project is to explore the impact web-based simulations have on student learning when integrated into a course of study.

A study completed by the Association of American Medical Colleges (2011) indicated medical schools used simulation for both educational and assessment purposes. For example, the following areas of impact were identified: medical knowledge 96%, patient care 98%, professionalism 92%, interpersonal communication skills 98%, practice-based learning 72%, system-based practice 70%, psychomotor tasks 90%, leadership 69%, team training 87%, and critical thinking/decision making 91%.

Simulation has been identified as a strategy to assist medical students and residents in achieving nationally identified competency-based objectives and core clinical skills. Clerkships and/or residencies currently using simulation nationally include; OB-GYN, Internal Medicine, Neurology, Surgery, Anesthesiology, and Pediatrics.

TTUHSC Department of Surgery is a 2015 Pilot Institution for the American College of Surgeons (ACS), the Association of Program Directors in Surgery (APDS), and the Association for Surgical Education (ASE) Residency Prep Curriculum. Many of the skills integrated into this curriculum are reviewed and assessed through simulation.

Simulation-enhanced Interprofessional Education (Sim-IPE).

Multiple government agencies and national foundations stress the use of both case-based and simulation-based strategies to teach and assess teamwork skills. For example, the Accreditation Council for Pharmacy Education (ACPE) 2016 accreditation Standard 11: Interprofessional Education (IPE) stated: "Through interprofessional education activities, students gain an understanding of the abilities, competencies, and scope of practice of team members. Some, but not all, of these educational activities may be simulations."

Teamwork requires the interrelated set of specific knowledge, skills, and attitudes for an interprofessional team to function as a unit. Simulation was recommended as a tool to teach and assess learning outcomes related to interprofessional teamwork by the Interprofessional Education Collaborative (2011) and the Agency for Healthcare Research and Quality for TeamSTEPPS training (2015).

Other initiatives.

National and international endeavors have the potential to elevate the use of simulation in healthcare education, assessment, certification, and licensure. These initiatives include:

Several professional organizations have simulation accreditation programs that are in place or in development. For example: American College of Surgeons, American Society of Anesthesiologists.

The Society for Simulation in Healthcare (SSH) has an accreditation process for simulation programs.

SSH in collaboration with Association of Standardized Patient Educators (ASPE) and the International Nursing Association Simulation/Learning Resource Center Conference (INACSL) have a certification process for Certification Healthcare Simulation Educator (CHSE), Certified Healthcare Simulation Educator-Advanced (CHSE-A), and Certified Healthcare Simulation Operations Specialist (CHSOS).

Achievements of the simulation program's personnel

National honors obtained.

2010 - The F. Marie Hall *SimLife* Center was designated as a Laerdal Center for Educational Excellence (Program Purpose: To recognize Centers that have exhibited consistent excellence in educational philosophy and programs for the purpose of "helping save lives". To identify Centers to which others can be referred as examples of the ways in which excellent educational programs are designed and implemented in the field of "helping save lives". To establish a network of Centers that can provide mutual

support for 'breaking new ground' in the field of educational programs for "helping save lives.)

- 2011- Decker, S., The Education Management Solutions (EMS) Pioneer Award to recognize role in pioneering new ways of simulation training.
- 2012 - 13 Caballero, S., The National League for Nursing's Leadership Development Program for Simulation Educators.
- 2014 - Decker, S., Excellence in Academia, International Nursing Association for Clinical Simulation and Learning
- 2015 - Whitcomb, K., Excellence in Practice, International Nursing Association for Clinical Simulation and Learning

Certifications achieved by simulation centers' personnel.

Certified Health Simulation Educator (CHSE)

Sandra Caballero MSN, RN, CHSE

Melissa Leal, MSN, RN, CHSE

Kathryn Whitcomb, DNP, RN, CHSE

Certified Healthcare Simulation Operations Specialist

Bill Davis, BS, CHSOS

Matt Pierce, MS, CHSOS

Leadership in professional organizations specific to simulation.

- 2012 – Present Decker, S., Society for Simulation in Healthcare Certification Committee, Chair
- 2009-2015 Decker, S., International Nursing Association for Clinical Simulation and Learning, Standards Committee Member – 2009-2015 [Sub-committee chair for the development of the Standard VI – Debriefing Process and Standard VIII – Simulation Enhanced Interprofessional Education (Sim-IPE)]
- 2009-2011 Caballero, S., International Nursing Association for Clinical Simulation and Learning, Standards Sub-committee Standard VI – Debriefing Process, member
- 2014 - Present Whitcomb, K., Society for Simulation in Healthcare Certification Test Writing Sub-Committee, member
- 2015 – Present Davis, B., Society for Simulation in Healthcare Certification Education Sub-Committee, member
- 2015 - Present Leal, M., Society for Simulation in Healthcare, Conference Planning Committee, member

2015 - Present Leal, M., Society for Simulation in Healthcare, Conference Education Committee, member

Peer reviewed publications (2014-2015 only).

Campbell, L.A., **Whitcomb, K.**, Culver, M., & McClanahan, C. (2015). Community engagement: Leveraging resources to improve health outcomes. *Nursing Administration Quarterly*, 39(3), E26-E30.

Decker S. I., Anderson M., Boese T., Epps C., McCarthy J., Motola I., Palaganas J., Perry C., Puga F., Scolaro K., & Lioce L. (2015, June). Standards of best practice: Simulation standard VIII: Simulation-enhanced interprofessional education (sim-IPE). *Clinical Simulation in Nursing*, 11(6), 293-297. <http://dx.doi.org/10.1016/j.ecns.2015.03.010>.

O'Donnell, J, **Decker, S.**, Howard, V., Levett-Jones, & Miller, C. (2014). NLN/Jeffries simulation framework state of the science project: Simulation learning outcomes. *Clinical simulation in nursing*, Volume 10, Issue 7, 373-382. <http://dx.doi.org/10.1016/j.ecns.2014.06.004>

Powers, C., Normand, L., & **Whitcomb, K.** (2014). Is clique behavior sabotaging your nursing team? *Nursing Management*, 45(11), 38-43.

Whitcomb, K. (2014). Using a multidimensional approach to improve quality related to students' hand hygiene practice. *Nurse Educator*, 39(6), 269-273.

Sittner, B. J., Aebersold, M. L., Paige, J. B., Graham, L. L. M., Achram, A. P., **Decker, S. I.** & Lioce, L. (2015) INACSL standards of best practice for simulation: Past, present, and future. (2015) *Nursing Education Perspectives*, 36(5), 294-298.

Yoder-Wise, P., & **Whitcomb, K.** (2015). Engagement. In Smith, M. J., Carpenter, R., & Fitzpatrick, J. J., *Encyclopedia of nursing education*. New York: Springer Publishing.

Book Chapter (2014-2015 only).

Decker, S., Lopreiato, J., & Patterson, M. (2014). Certification in clinical simulations: The process, purpose, and value added. In *clinical simulations in nursing education: Advanced concepts, trends and opportunities*. (pp. 191-206). Baltimore, MD: National League for Nursing.

Presentations (Podium) (2014-2015 only).

Backlund, D. J., (2015, July). Advanced troubleshooting in SimulationIQ Enterprise. Education Management Solutions (EMS) Summit, Villanova University, Villanova, PA.

Decker, S. (2015, August 20). Expanding the use of simulation and debriefing in clinical education: Where are we now and what's next? Key Note, Simulation Faculty development conference. University of Texas at Austin School of Nursing. Austin, Texas

Francis-Johnson, P. & **Decker, S.** (2015, August 5). Integrating simulation into TeamSTEPPS: A tool to promote collaborative practice in a clinic setting. Summer Institute: Engaging Patients and Professionals to Advance Clinical Excellence. University of Texas Health Sciences Center School of Nursing, San Antonio, Texas.

Goodwin, D. L., **Leal, M. S.,** Hinrichs, E., Hammond, L., Lindemood, J. & Saju, J. (2015, July 26). Mixed messages: Untangling interprofessional communication in healthcare students. Sigma Theta Tau International's 26th International Research Congress, San Juan, Puerto Rico.

Decker, S. (2015, April 23). Simulation: Past, present, and future. Key Note, Texas League for Nursing, Austin, Texas

Decker, S. (2015, April 21). How Simulation-based Learning Reduces Error in Health Care and Promotes Safety for Patients. Texas Tech University Health Sciences Center Community Medical School. Lubbock, Texas.

Kardong-Edgren, S., Butt, A., **Decker, S.,** & Platt, A., (2014, September). Deliberate Practice: It Seems Like a Good Idea...Now What?! National League for Nursing Summit. Phoenix, AZ.

Decker, S. (2014, October, 9). Simulation-based interprofessional education. Key Note, 2nd Clinical Simulation Conference of West Texas: Bridging Education and Practice Gaps to Improve Patient Outcomes. El Paso, Texas.

Leal, M. (2014, November 18). Enhancing Inter-professional communication using simulated emergent clinical scenarios. Texas Rural Health Association (TRHA) Conference. Fort Worth, Texas.

Whitcomb, K. (November, 2014). Simulation in healthcare: Innovative learning in education. First Thursday: Abilene Country Club. Abilene Community. Abilene, Texas.

Presentations (Webinars) (2014-2015 only).

Backlund, D. J. (2014, November). Organizational structure and statistics in SimulationIQ Enterprise: An introduction. SimGHOSTS

Decker, S. (2014, June 26). The role of simulation in rehabilitation nursing: Where do we go from here? Association of Rehabilitation Nursing

Decker, S. (2014, November). Simulation-Enhanced interprofessional education. Education Management Solutions (EMS)

Presentations (Posters) (2014-2015 only).

Bargainer, R., **Whitcomb, K.**, Lee, Y., Beckling, A., Parks, K., & Wilson, A. (2015, June). Interprofessional trauma simulation: A bridge to quality care. INACSL, 2015, Atlanta, GA.

Decker, S., Francis-Johnson, P., **Caballero, S. Whitcomb, K., & Leal, M.** (2015, June). Integrating Simulation into TeamSTEPPS: A Tool to Promote Collaborative Practice in a Clinic Setting. Poster session presented at the 14th International Nursing Learning Resource Center Conference. Atlanta, GA.

Whitcomb, K. (2015, June). Using a multidimensional approach to improve quality related to students' hand hygiene practice. International Nursing Association for Clinical Simulation & Learning 2015 Conference, Atlanta, GA. (First place: Excellence in Practice Award. This poster presentation is currently featured in the INACSL's August 2015 Newsletter.)

Campbell, L., **Whitcomb, K.**, Culver, M., & McClanahan, C. (2014, October 9). Population health evaluation and improvement: Leveraging stakeholders to achieve healthy communities. 2014 Doctor of Nursing Practice (DNP) Conference, Nashville, TN.

Invited Expert Panel (2014-2015 only).

Decker, S. (2014, October) National League for Nursing Invitational Strategic Action Committee. Using Debriefing Methods to Teach Thinking Across the Nursing Curriculum, Washington DC.

Decker, S. (2014, June). Smithgroup IPE Advisory Board, Pittsburgh, PA.

Research in Progress.

Gautam, B., Wise, T., **Caballero, S.**, Vugrin, M. & **Decker, S.** Enhancing Clinical Judgment Through the Use of Evidence Based Information Obtained through Point-of-Care Technology, F. Marie Hall Homey Fund

Decker, S., Francis-Johnson, P., **Caballero, S. Whitcomb, K, & Leal, M.** (2015, June). Integrating Simulation into TeamSTEPPS: A Tool to Promote Collaborative Practice in a Clinic Setting.

McBride, S., **Decker, S., Watson, J.**, Thomas, L., Pierce, M., Burson, S., et al. collaborative project with TTUHSC School of Nursing, The F. Marie Hall *SimLife* Center, University Medical Center, and Cerner Cooperation: Electronic Health Record-Enhanced Simulation Program (Grant submitted to Healthcare Patient Safety and Quality Improvement Research (HSQR) Poverty Simulation

The F. Marie Hall *SimLife* Center and School of Nursing sent four individuals to Kansas City, MO for Facilitator Training for the Community Action Poverty Simulation (CAPS) be trained as facilitator. The Simulation requires participants role-play the lives of low-income families from single parents trying to care for their children to senior citizens trying to maintain their self-sufficiency on Social Security.

The following simulations were held this past year:

January 5th, volunteer training (30 students from the School of Medicine)

March 10th, School of Medicine – 60 students (interprofessional)

April 8th, School of Nursing – 130 nursing students

Grants.

Nurse Education, Practice, Quality, and Retention Interprofessional Collaborative Practice. (The project is a service provision project (providing collaborative services through multidisciplinary approach to medically underserved populations for reducing cardiovascular risk.) a multiyear Health Resources and Services Administration (HRSA) grant. PI - Esperat, C. (**Decker, S.** member of the research team)

Grant Consultation.

NIGP Grant, THECB, Texas A & M University, Corpus Christi (Consultant, **Decker, S.**)

Update for the simulation program personnel (September & October, 2015)

Presentations podium.

Decker, S., McBride, S., Thomas, L. & **Watson, J.** (2015, October 6, Invited-Podium). Research in simulation: Who, what, when, why, and how? American Nurses Credentialing Center (ANCC) Research Symposium: Building Research Capacity in Your Organization, Atlanta GA

Powers, C., Normand, L., & **Whitcomb, K.** (2015, October 16, Invited-Podium). Is clique behavior sabotaging your nursing team? Nursing Management Congress 2015

Whitcomb, K., Paris, D., Bargainer, R., Beckling, A., Faz, R., Keidl, T., Paris, W., Lee, Y., Ochoa, P., Vega, J. & Macedo, L. (2015, November 6, Podium- Invited). Interprofessional team collaboration: Breaking down silos between health professions. TTUHSC Fall Symposium, Lubbock, TX.

Presentations Posters.

Zinn, M., & **Whitcomb, K.** (2015, September, Poster). The financial impact of clique and bully behavior on nursing. 2015 Texas Nurse Practitioner's Conference

Powers, C., Normand, L., & **Whitcomb, K.** (2015, October 15, Poster). The nurse leader's role in reducing clique behavior. Nursing Management Congress 2015

Presentations Webinars.

Decker, S. & Erp, C. (2015, September 15). Standard of Best Practice: Simulation-enhanced interprofessional education (IPE). American Association of Colleges of Nursing

Web-based development.

Decker, S., Caballero, S. Whitcomb, K, Leal, M., & Stennett, R. (2015, September) content reviewers/writers:

Guided reflection and instructor debriefing subject matter expert for online VSim for Nursing/Fundamentals. Laerdal Medical & Wolters Kluwer Health, 2015

Honors.

Decker, S.: Accepted into the NLN Executive Leadership in Nursing Education and Practice Program

Whitcomb, K.: Accepted into the NLN Leadership Development Program for Simulation Educators

National Appointments to Committees.

Caballero, S., 2016 World Congress on Ultrasound in Medical Education, Committee for the Scientific program

Davis, B., Society for Simulation in Healthcare (SSH) Certification Committee, Subcommittee CHESOS

Decker, S., National League for Nursing, Commission for Nursing Education Accreditation (NLN CNEA) Evaluation Committee, Chair

Decker, S., 2016 World Congress on Ultrasound in Medical Education, Committee for the scientific program

Decker, S., Texas A&M University Corpus Christi, Simulation Advisory Committee

Leal, M., Society for simulation in healthcare education committee: IMSH 2017 education co-lead

Whitcomb, K., International Nursing Association for Clinical Simulation in Learning, Programs Committee, abstract reviewer

Whitcomb, K., Society for Simulation in Healthcare Academy Committee, sub-committee marketing the Academy

Certifications obtained through the Society for Simulation in Healthcare as Certified Healthcare Simulation Operations Specialist (CHSOS).

Jarrold Jones, BS, CHSOS

Daniel Backlund, PhD, CHSOS

Grant obtained.

Decker, S., Merrill, E., Philips, B., Sancibrian, S., Seifert, Sridaromont, K., & Simon, W. – Integrating Telehealth into Interprofessional Education in the Health Sciences: Preparing Health Professionals for the Future - \$100,000.

Consultation.

Decker, S. - Texas A&M University Corpus Christi, NIGP Grant, THECB, Integrating Electronic Health Records into Simulation-based Experiences

Mission Effect Analysis

SWOT Analysis

<p>STRENGTHS</p> <ul style="list-style-type: none"> • State-of-the-art, realistic facilities • Regional location of various centers • Interprofessional • Multimodality • Digital-audio-visual system connecting all simulation centers (Lubbock, Abilene & Odessa) • Knowledge and experience of simulation personnel • Flexibility of simulation personnel • Quality of service provided to customers • Recognized Laerdal Center of Excellence • Workshops developed and provided • Location within the Health Sciences Center • Partnerships with area acute care agencies • AHA Cardiac Training Center (expansion to Abilene and Odessa) • Support provided to community • Role in student and faculty recruitment • Role in public relations (tours) • Involvement in innovative national projects 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • Communication among Simulation Centers' Personnel • Communication with TTUHSC faculty • Scheduling • Personnel (Abilene & Odessa) numbers • Space (Lubbock) for simulations and storage • Promotion of the Center – Marketing • Website (should represent the “simulation programs”) • Autonomy – Unsure of line of authority within TTUHSC • Institutional financial support
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • National and international recognition of the pedagogy of simulation • The development of certification for simulation educators and operationist by SSiH • Recognized accreditation process for simulation centers by SSiH • Accrediting agencies recognizing simulation as a component of clinical education • Reimbursement related to Telehealth • Recognition that Electronic Health Records need to be integrated into simulation-based activities 	<p>THREATS</p> <ul style="list-style-type: none"> • Negative impact on patient care • Negative impact on student learning • Threat to national reputation • Threat to student recruitment • Threat to the TTUHSC mission

Goal Alignment with TTUHSC's Strategic Plan

The mission of Texas Tech University Health Sciences Center is to educate health professionals for improving public health through research, inter-professional teamwork, patient care, community engagement, and service. The strategic goals for the simulation program (Lubbock, Abilene, and Odessa) have been aligned with this mission as reflected below.

Strategic Goals 2015-2020

TTUHSC Strategic Plan	Simulation Centers Goal/s	Proposed Measurement
TTUHSC will foster the development of competent healthcare professionals and biomedical researchers	To have the appropriate equipment, supplies, and simulators required for learners to achieve both inter and intra-professional competencies	Survey measuring faculty /educator satisfaction (<i>Annually</i>) Survey measuring learner satisfaction (<i>Annually</i>) Debrief sessions with faculty (<i>Annually</i>)
TTUHSC will recruit, develop, and retain outstanding employees.	<p>To provide faculty development related to the pedagogy of simulation</p> <p>To develop scenarios to assist faculty in acquiring skills related to challenge confronted in their role</p> <p>To modify current in-service to reflect current evidence-based practice</p>	<p>Critique of simulation-based activities using Debriefing Assessment for Simulation in Healthcare (DASH) https://harvardmedsim.org/debriefing-assessment-simulation-healthcare.php (<i>Annually</i>)</p> <p>Critique of reflective feedback conversations using Feedback Assessment for Clinical Education (FACE) https://harvardmedsim.org/feedback-assessment-clinical-education.php (<i>Annually</i>)</p>
TTUHSC will advance knowledge, and healthcare practice through innovative research and scholarship.	<p>To assist faculty in designing educational projects or research studies that incorporate simulation</p> <p>To participate in educational projects or research that includes simulation</p>	Provide listing of 1) proposals submitted, 2) articles published and 3) presentations. (<i>Annually</i>)

<p>TTUHSC will promote improved community health through the provision of patient care services and healthcare education.</p>	<p>To assist faculty in providing realistic community based simulation</p> <p>To assist community partners in developing assessment programs that use simulation</p> <p>To explore development of credentialing course related to simulation</p> <p>To investigate the integration of Telehealth into various curricula.</p>	<p>Assist in writing scenarios reflecting realistic community based situations</p> <p>Survey measuring satisfaction at course/workshop completion <i>(Annually)</i></p> <p>Utilization statistics reflecting community partners use of simulation centers <i>(Annually)</i></p> <p>Complete needs assessment related to Telehealth <i>(Spring 2016)</i></p> <p>Identify competencies specific to care of individuals using telehealth technology <i>(Summer 2016)</i></p> <p>Assist in writing scenarios specific to telehealth <i>(Spring 2017)</i></p>
<p>TTUHSC will operate effectively and efficiently through maximization of available resources.</p>	<p>To operate simulation centers (simulation program) in an effective and efficient entity within the Texas Tech University Health Sciences Center</p> <p>To seek funding for programmatic initiatives</p>	<p>Financial Pro Forma to reflect a balanced budget <i>(within 10 years)</i></p>

Future Strategic Goals Related to Project Growth

2015-2020

- Complete fiscal analysis and feasibility study for business operations
- Submit application for accreditation through the Society for Simulation in Healthcare's Council for Accreditation of Healthcare Simulation Programs
- Establish TTUHSC Interprofessional Simulation Advisory Committee
- Expand the Interprofessional Ultrasound Training Program to all campuses

- Implement credentialing course for simulation educators and technicians
- Explore additional partnerships with outside industry and agencies

Utilization

The usage of simulation centers continues to increase. Utilization statistics provided are divided into several classifications: Tours, TTUHSC students and residents, and External Users (See Appendix B). Feedback from users continues to be extremely positive with learners requesting more integration of simulation within curricula.

Space

The enrollment of undergraduate nursing students in Abilene has increased substantially. Plus, the future partnership between TTUHSC and Texas Christian University's School of Nurse Anesthesia required an additional 7,000 sq. feet. This space is under construction and will include an operating suite and an area for encounters with standardized patients

The enrollment in the Schools of Medicine and Nursing are projected to increase over the next five years. In addition, both schools have increased the amount of simulation within their various programs. Therefore, focus groups were initiated and projected needs identified which resulted in a request for an additional 8,900 sq. feet at the Lubbock campus.

Personnel: Current Positions and Commitment.

1. Associate Dean for Simulation/Executive Director 100% Commitment (Faculty position with Regional Responsibility)

The position requires a healthcare provider with a doctoral degree, management experience related to a simulation center, and expertise in simulation as an educational pedagogy. Administrative responsibilities of this position include the organizational and fiscal management of the simulation centers located in Lubbock, Abilene and Odessa. Other responsibilities include faculty development, research initiatives, and assisting with interprofessional activities related to simulation.

2. Director 80% Commitment to simulation program 20% commitment to the School of Nursing (Faculty)

The position requires a healthcare provider with the minimum of a master's degree and at least 3 years of clinical experience. Responsibilities include the day-to-day coordination, management and scheduling of simulation activities. (Currently there are 3 Directors – Lubbock, Abilene, and Odessa)

3. Director (Director of Clinical Informatics) 100% Commitment to simulation program

The position requires a healthcare provider with the minimum of a master's degree or equivalent with expertise related to informatics or electronic health records.

Responsibilities include the integration of electronic health records into simulation-based activities. (Currently located in Lubbock – position funded through a grant)

4. Director (Director of Simulation IT) 100% Commitment to the simulation program (Staff position with Regional Responsibility)

This position requires an individual with the minimum of a master's degree or equivalent with expertise in computer programming, audio-visual technology, or information technology. Responsibilities include oversight of all hardware and software of the various simulation centers and integration in to TTUHSC network. The individual is responsible recording and compiling data from all testing encounters. (Currently located in Lubbock)

5. Associate Managing Director 100% Commitment to the simulation program (Staff position with Regional Responsibility)

This position requires an individual with a minimum of a master's degree or equivalent with expertise in fiscal planning. Responsibilities include oversight of the business operations of the simulation program. (Currently located in Lubbock)

6. Section Manager (Simulation Operations Manager) 100% Commitment to the simulation program (Staff position with Regional Responsibility)

This position requires an individuals with a minimum of a bachelor's degree or equivalent with experience as a standardized patient, audio-visual technology, or information technology. Responsibilities include oversight of the technical operations of conducting a simulated experience conducted by the simulation program. (Currently located in Lubbock)

7. Unit Manager (Standardized Patient Program Manager) 100% Commitment to the simulation program (Staff position with Regional Responsibility)

This position requires an individual with a minimum of a bachelor's degree or equivalent with experience as a standardized patient, teaching or supervising other personnel. Responsibilities include oversight of the standardized patient program by managing, coordinating and assisting in case development, monitoring and evaluating the standardized patients for accuracy and appropriateness of feedback. (Currently located in Lubbock)

5. Staff Nurse(s) 100% Commitment to the simulation program (Staff)

The Staff Nurse position requires a State of Texas Licensed Registered Nurse and hold certification as Basic Life Support, Advanced Cardiac Life Support, and Pediatric Life

Support instructor. The staff nurses are responsible for the setting up and tearing down of all simulation-based experiences and ordering supplies. Staff nurses are responsible for providing certification courses through the American Heart Association. (Lubbock, Abilene, & Odessa)

6. Data Specialist for Simulation 100% Commitment to the simulation program (Staff – position funded through a grant)

This position requires an individual with a minimum of a master's degree or equivalent with experience related to informatics or electronic health records integration.

Responsibility include the integration of electronic health records into simulation-based experiences and Web Master for the simulation program. (Lubbock)

7. IT Support Tech III 100% Commitment to the simulation program (Staff)

This position requires an individual with a minimum of a bachelor's degree or equivalent with experience with information technology, audio-visual technology, or healthcare background. Responsibilities include troubleshooting and maintenance of hardware and software at a distant campus. (Abilene)

8. Simulation Technician(s) 100% Commitment to the simulation program (Staff)

The Simulation Technician position requires a minimum of a bachelor's degree or equivalent with experience with information technology, audio-visual technology, or healthcare background. Responsibilities include providing technical support for simulation setup and delivery. Simulation Technicians collaborate with Simulation Operations Manager, simulation center team, multi-disciplinary groups, and education departments to assist in the implementation and evaluation of technologies required for simulation programs using industry standards and established best practice standards. (Lubbock, Abilene & Odessa)

9. Data Specialist for Simulation (4.5 FTE, 100% Commitment to the simulation program (Staff-position funded through a grant)

This position requires an individual with a minimum of a bachelor's degree or equivalent with experience related to program management and/or data entry. Responsibilities include assisting with the integration of electronic health records into simulation-based experiences.

10. Section Coordinator 100% Commitment to the simulation program (Staff)

The Section Coordinator requires a minimum of a bachelor's degree or equivalent with experience with purchasing. This individual orders supplies, equipment, and simulators as needed and approved for simulation-based experiences. (Lubbock)

11. Standardized Patient Coordinator 100% Commitment to the simulation program (Staff)

This position requires an individual with a minimum of a bachelor's degree or equivalent with experience related to healthcare or standardized patient. Responsibilities include hiring and oversight of standardized patients at a distant campus. (Abilene & Odessa)

12. Unit Coordinator 100% Commitment to the simulation program (Staff)

This position maintains confidential and utilization records for the various simulation centers and is responsible for maintaining frequent contact with faculty, staff and/or other constituents to schedule meetings and telephone conferences, take meeting minutes, compile information for various reports, answers the telephone, and schedules tours. (Lubbock, Abilene & Odessa)

Future Projections: Personnel Increase Needs

2016, Fall

Odessa: IT Support Tech III (1)

Rationale: Modification of curricula in the School of Nursing and increase in utilization by Schools of Nursing and Medicine

2017, Fall

Lubbock: Positions that will no longer be supported by a grant and are mandatory to the function of the simulation program

Director (Director of Clinical Informatics) – position will be taking on a regional scope with the integration of electronic health records at all simulation centers.

Data Specialist for Simulation – position will be taking on a regional scope with the integration of electronic health records at all simulation centers.

Data Specialist for Simulation (4.5 FTE) – Position will support entry of data into the electronic health records at all simulation centers (Lubbock, Abilene, & Odessa)

2018, Fall

Lubbock: Unit Coordinator (1) and IT Support Tech III (1)

Opening of new space and increase in utilization by the Schools of Medicine and Nursing

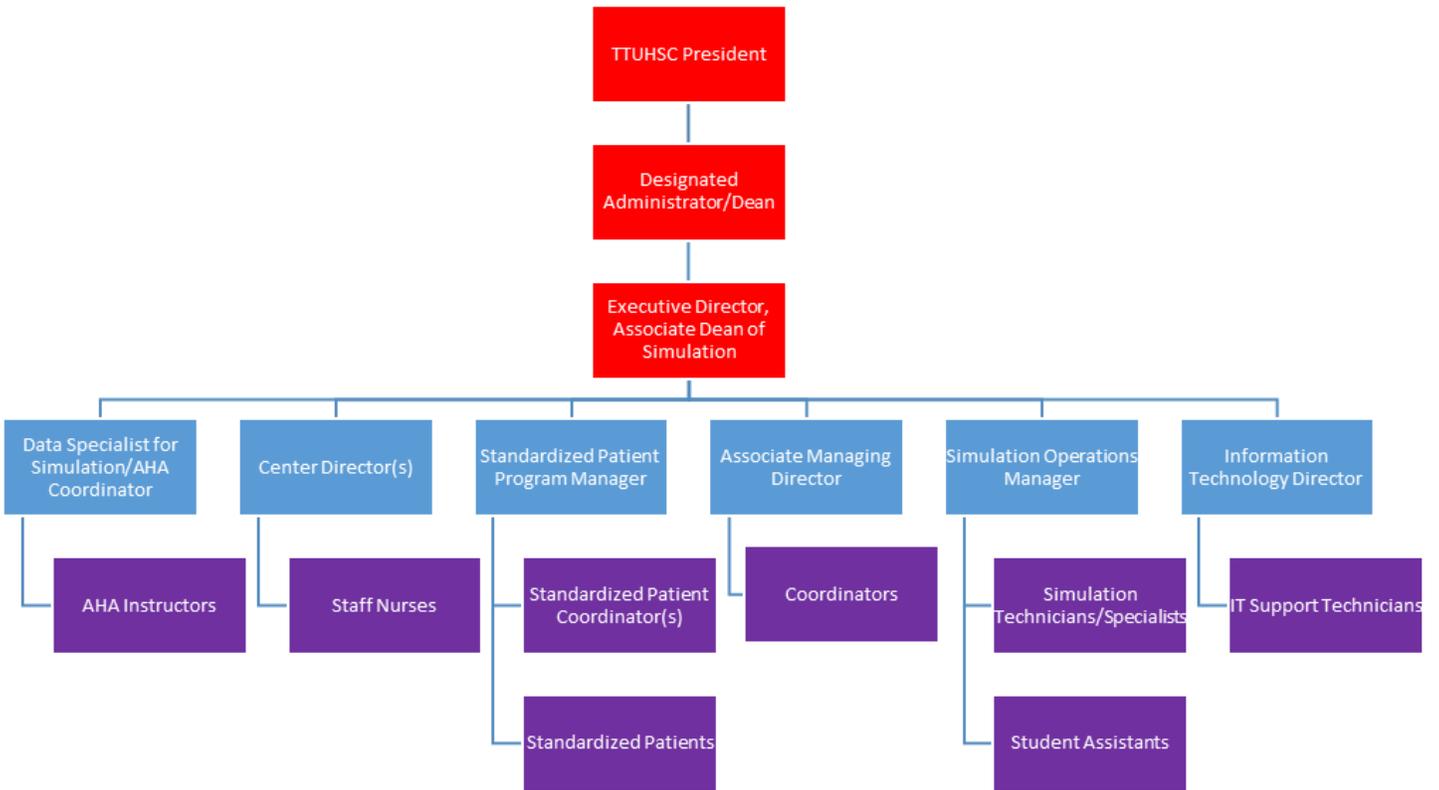
2019, Fall

TBD based on utilizations studies

2020, Fall

TBD based on utilization studies

B. Organizational Chart



Summary Statement

We believe the education students receive at TTUHSC should parallel, if not surpass, the quality of any other prestigious healthcare center across the nation. We are committed to assisting the faculty in educating and preparing high quality healthcare providers who serve west Texas communities and the nation. Furthermore, we are dedicated to provide excellence in service, simulation, and the technology required to prepare TTUHSC graduates for the dynamic healthcare environment.

Appendix A: Definitions and Simulation Modalities

Deliberate Practice: A goal-oriented approach used to develop and/or improve all levels of skill acquisition utilizing scaffolding principles to attain clinical judgment and mastery leading to expert performance (modified Ericsson, 2004). The experience must be monitored with immediate personalized feedback provided by faculty, coaches, standardized patients, or electronic devices capable of documenting the performance.

Feedback: A critique of a participant's performance provided to assist the individuals in developing competency.

Fidelity: The degree to which a simulated experience approaches reality. The level of fidelity (high, mid, or low) is determined by the environment, simulators, the tools and resources used.

Independent Practice: Practice outside of scheduled curriculum experiences that do not include monitoring or feedback.

Skills: The ability to safely perform technical and/or non-technical tasks while upholding speed, efficiency, and accuracy. Skills and tasks are more than the ability to perform or cite; they include the ability to perform and communicate proficiently, therapeutically, and consistently within appropriate time limits.

Skills Experience/Skills Lab: Activities designed to promote or to assist the development, efficiency, and accuracy of technical and or non-technical skills. These activities are designed to uphold professional comportment with respect for the development of intra/inter professional knowledge, skills, attitudes, and behaviors.

Simulation: A pedagogy using one or more typologies to promote, improve, or validate a participant's progression from novice to expert. A simulation based activity is based on a patient experience and requires learners to demonstrate clinical judgment while performing technical and non-technical skills.

Simulation-enhanced Interprofessional Education (Sim-IPE): Simulation-based activities in which participants and facilitators from two or more professions are placed into a simulated healthcare experience in which “. . . shared or linked educational goals are pursued” (Seymour et al., 2013, p. 1), while the individuals involved “learn about, from and with each other to enable effective collaboration and improve health outcomes” (WHO, 2010, p. 31).

The Debrief Process: An activity that follows a simulation-based experience led by a facilitator in an effort to promote reflective thinking.

Traditional Clinical Experience: Practice in a setting where the student provides care to patients under the guidance of an instructor or preceptor.

Modality: Classification of types. In simulation it refers to the classification of different educational methods and/or equipment used to provide a simulated experience.

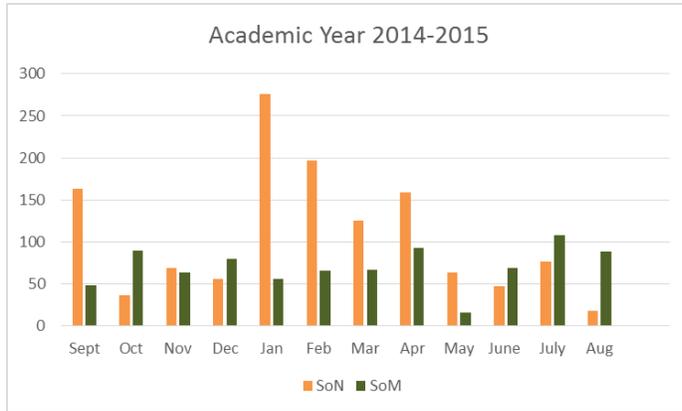
Definitions for Current Simulation Modalities

Simulation Modalities	Definition
Advanced Patient Simulators	A computerized full body mannequin programmed to provide realistic physiologic responses to a practitioner's actions.
Haptic Systems	A computer generated environment combining real-world and virtual reality which allows for tactile sensation.
Hybrid	Mixed method using two or more types of simulation typology; for example, standardized patients and partial trainer).
Partial Task Simulators	Models or mannequins used to obtain competency in simple procedures.
Peer-to-Peer	Peer collaboration used to master specific skills.
Screen-based Simulation	Computer programs used to teach, provide feedback, and evaluate clinical knowledge and critical thinking.
Standardized Patients	Volunteers or paid individuals are taught to portray a patient realistically and consistently in a case scenario format.
Virtual Reality	A computer generated environment allows sensory stimuli provided through sophisticated partial trainers to promote authenticity.
3D Virtual World	An interactive simulated environment accessed by multiple individuals through an online interface in the form of synthetic characters avatars. Interactivity between avatars requires the use of teleoperations using visual, auditory, and haptic interface.
3D Visualization	Three-dimensional images of the human body which enable the dynamic collaborative augmentation of mixed realities (virtual and real).

Appendix B: Utilization Statistics

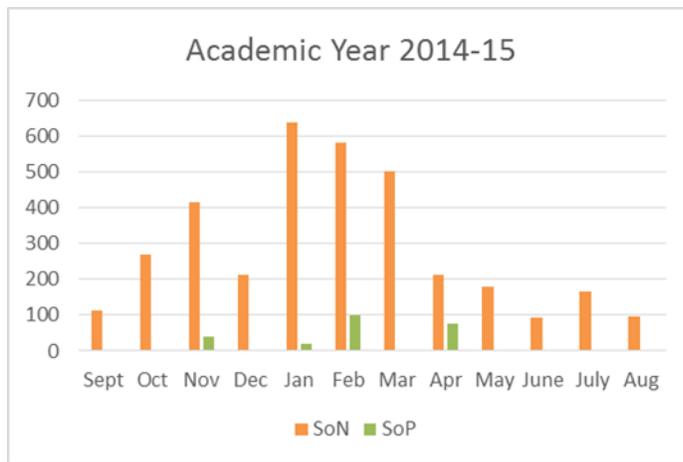
The utilizations statistics reflect only activities conducted within the various simulation centers. Weekly simulation-based experiences are integrated into didactic experiences (flipped-

classroom) which are support by the simulation program.



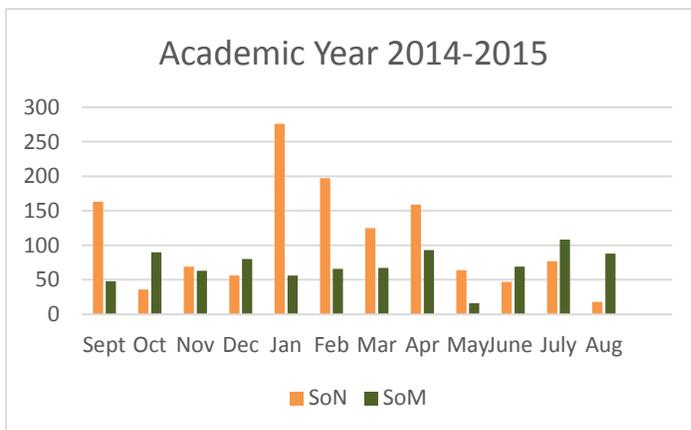
Lubbock

Students from the School of Nursing average 4 hours/visit. School of Medicine students and residents average 2 hours/visit.



Abilene

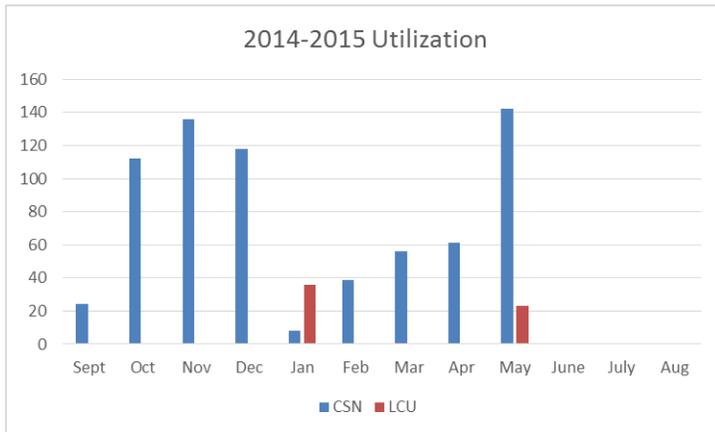
Students from the School of Nursing average 4 hours/visit. School of Pharmacy students average 1.5 hours/visit.



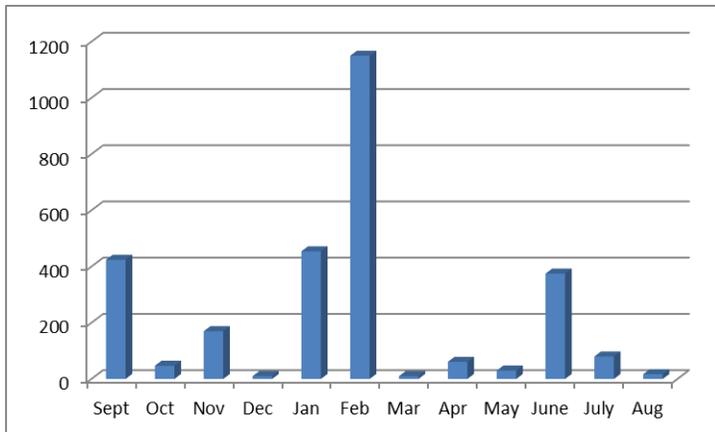
Odessa

Students from the School of Nursing average 4 hours/visit. School of Medicine students average 2 hours/visit.

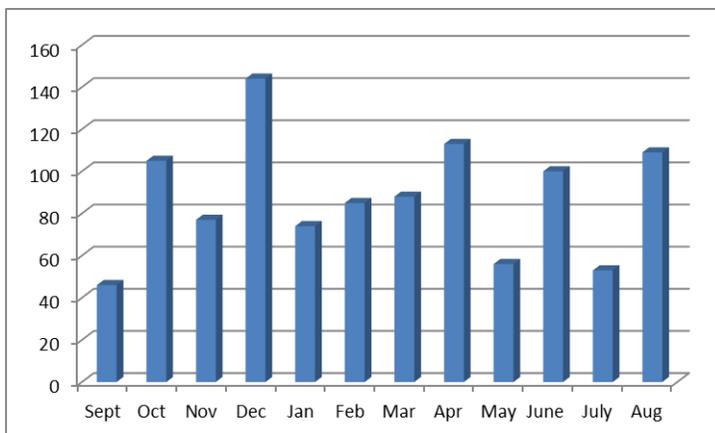
Lubbock



Individuals from Covenant Health System (CSN) include nursing and radiology program students and average 3.5 hours/visit. Individual from Lubbock Christian University (LCU) are enrolled in the nurse practitioner program and average 4 hours/visit.



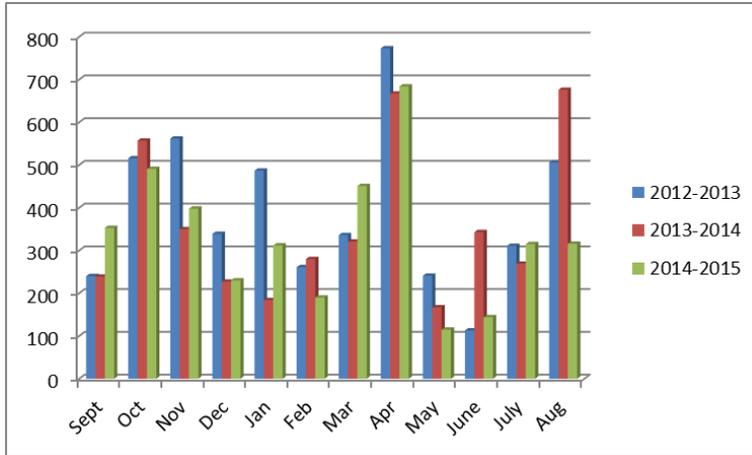
Individuals from University Medical Center include: core nursing staff annual competency assessments. Average visit per healthcare provider is 2 hours.



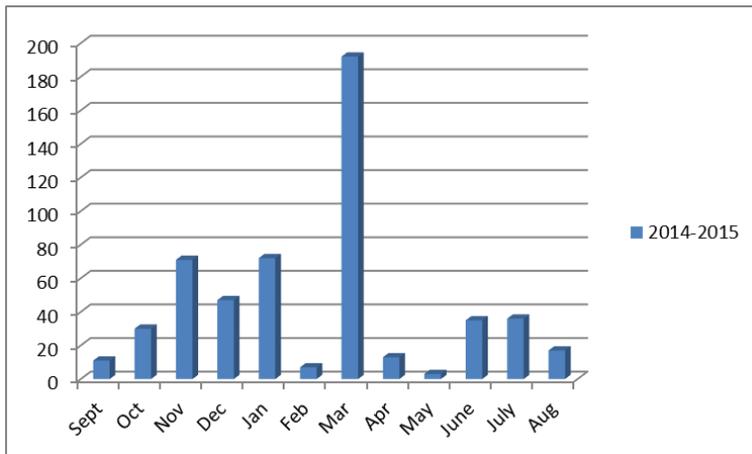
Odessa

Individuals from MCH use the center for orientation and in-services. Average visit per healthcare provider is 1.5 hours.

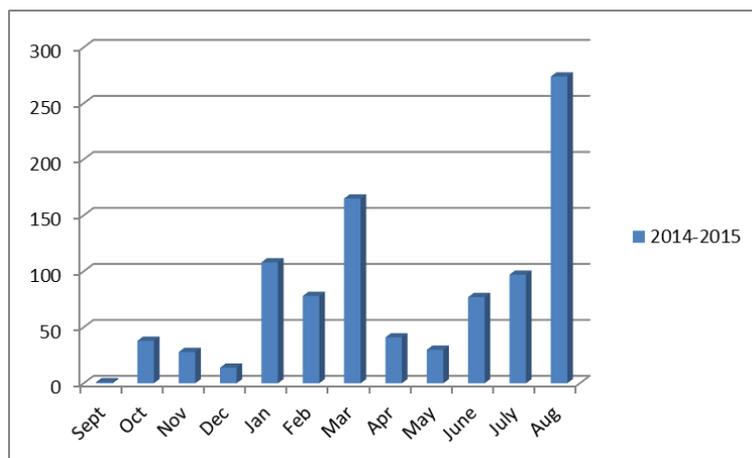
Tours reflect prospective TTUHSC students and faculty, national and community dignitaries, students from West Texas elementary, junior high and high schools, and individuals from national and international simulation centers.



Lubbock



Odessa



Abilene