

Day of Innovation

February 22, 2008

Summary of the Day

On February 22, 2008, the Arizona State Board of Nursing (AzBN) and the Healthcare Institute (HCI)¹ at the Arizona Hospital and Healthcare Association (AzHHA), hosted 122 nursing faculty, hospital staff, and government representatives at a work session. Participants were briefed on Arizona's nursing shortage data and explored the diversified applications for simulation labs and its potential in Arizona.

Presentations included:

- **Arizona RN Workforce Data:**
Beth Hartman Ellis, Project Director – Data Center, AzHHA, shared the results of the Arizona healthcare workforce data center survey conducted in collaboration with the Arizona State Board of Nursing and the Center for Health Information and Research.
- **“Creating a Path for Healthcare Simulation in Arizona”**
Sharon Gardner, Vice President of Human Resources at Yuma Regional Medical Center and Healthcare Institute Chair, summarized the AzHHA sponsored white paper on the status of simulation labs in Arizona.
- **Innovation: Be Bold:**
Kathy Malloch, President of Kathy Malloch & Associates challenged attendees to be bold and innovative in their ideas relating to the future of Arizona simulation labs. Descriptions and definitions specific to innovation were presented to assist participants in creative ideas regarding clinical simulation.
- **Simulation Panel Presentations:**
 - **Simulation Labs of the Future:**
Glenn Ostrem, Western Regional Manager for Laerdal Medical presented a status report on simulation lab equipment.

¹ Created in 1996 by the AzHHA Governing Board to provide workforce advocacy for its members and to address Arizona acute care workforce issues. The Institute achieves its goals through a community-based advisory board representing the health professions, hospitals, educational program, health professions students, consumers and other health care leaders. The HCI Advisory Board reports to the AzHHA Board of Directors.

- F-16 Simulator Training:
Major Jeffrey Simons, USAF, Chief, Aircrew Training Devices at Luke Air Force Base presented the use of simulation in high risk pilot training and the military's plan to increase its use, illustrating its application to healthcare settings.
- "Onboarding" of New Hires In the Modern Era: Improving Outcomes:
Kelly Reilly, MSN RN, Director of Nursing Education, Institute for Nursing for North Shore Long Island Jewish Health System presented information on the successful use of simulation labs:
 - better prepared new hires
 - less turnover
 - decreased orientation time

The afternoon was dedicated to facilitated table discussions. The following report groups the responses into the categories listed below:

- 1) What would a statewide simulation system look like?
- 2) What are the benefits, barriers and challenges in creating a state-wide system?
- 3) What are the cultural and relationship issues that need to be overcome to have a successful Arizona Simulation system?
- 4) What outcomes demonstrate success for an Arizona Simulation System?

The remainder of this report summarizes the discussions, conclusions barriers and "bold requests and bold offers² discussed." In addition "parking lot" comments were placed in the barrier-challenges listing.

² Bold requests and bold offers: throughout the day, participants were encouraged to voice bold requests (i.e. an idea, need or task required of someone else) and/or make any bold offers (i.e. commitment, pledge, to the group). Requests/offers were written on post-it-notes and placed on a flip chart at the front of the room. These requests/offers were noted and reviewed throughout the day.

OVERARCHING GOAL:

****SAFETY****

- Increased Workforce
- Cost-Effective
- Increased Clinical Placement
- Increased Retention

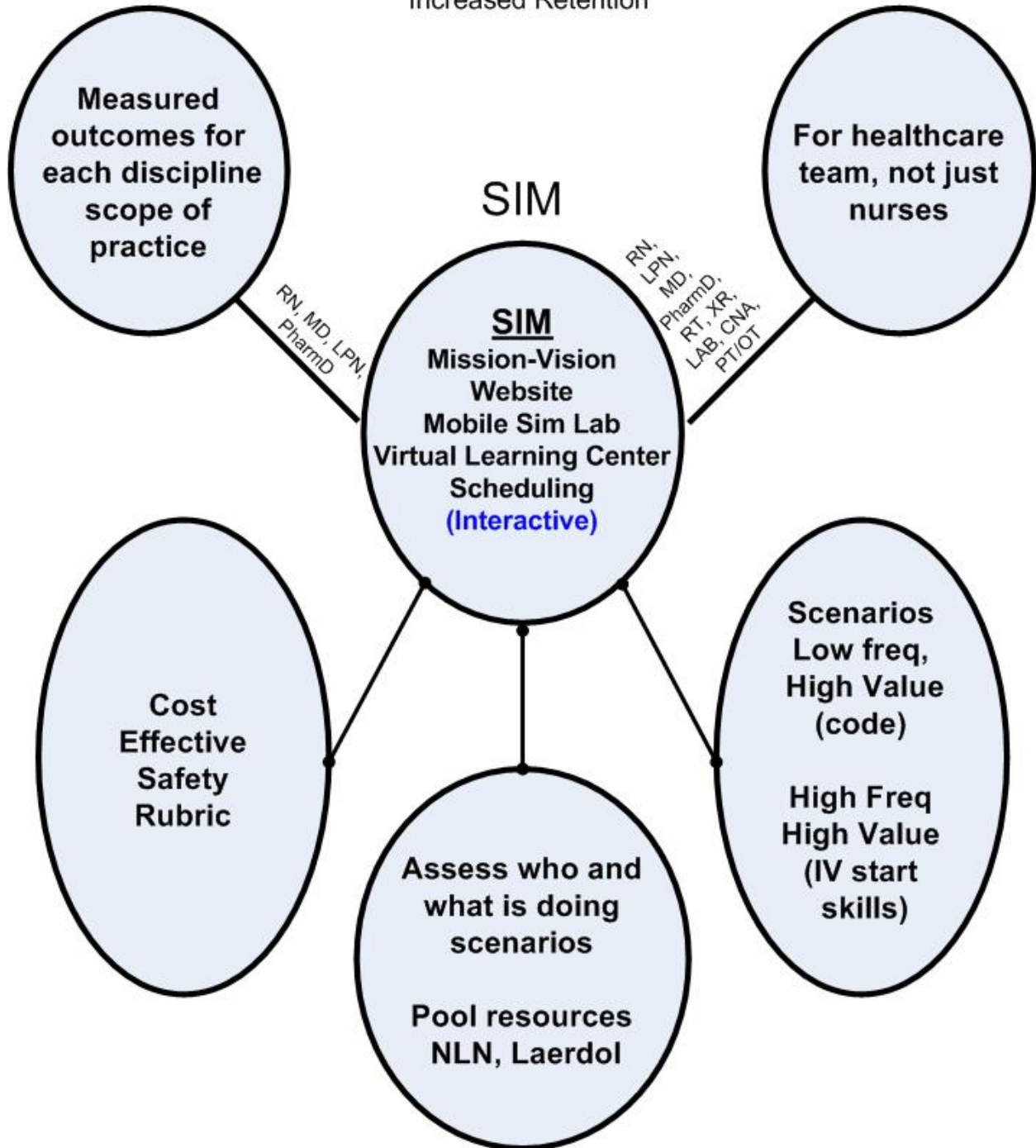


Diagram created at Day of Innovation 2/22/08 by a facilitated workgroup

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REPORT OF FACILITATED TABLE DISCUSSIONS

1. What would a statewide simulation (sim) system look like?

Operations:

- Financial
 - Jointly funded; state supported – tax incentives
 - Funding from hospitals
 - Funding, public – state and private
 - education and service agree on needs and share equipment and costs
 - Individual pay fee for certification
- Infrastructure
 - Private = flexibility = innovation
 - Possible 1 group head of Arizona Sim Network
 - Needs an oversight group
 - Oversight – department of simulation at state board
 - Free standing system not funded by or attached to any specific entity
 - System would align with:
 - associations
 - education
 - consultants
 - medical schools
 - clinical informatics
 - pharmacology
 - 3rd party payers
 - Institute for Healthcare Improvement (IHI)
 - police and fire associations
 - risk management firms
 - Active partnership between education and hospitals (healthcare industry)
 - Have an advisory group representing multi-professional users from both rural and urban areas

Operations (continued):

- Similar to Oregon state – Education consortium – common curriculum – benchmark
 - 3rd party contracted
 - run program
 - insurance
 - maintenance
 - update technology
 - All stakeholders need representation
- Need agreement on core competencies between education and service
- Future: Think beyond high fidelity mannequins. The virtual world now seen in games, such as second life.
- Offers powerful teaching potential for both students and staff members with the potential to develop critical thinking and team skills.
- Center for patient safety using simulation
- Staffing
 - Have content experts
 - Evaluator and instructors provided by agency. Staff for sim would be provided by sim mobile unit.
 - Skilled, trained operators and facilitators
- Available, accessible 24/7
- Geography
 - New system would not replace existing sim centers
 - Free standing sim centers – used by Individual to practice or demonstrate for certification
 - Should be a **virtual** sim lab system not a single fixed or mobile lab
 - Rural needs met
 - Virtual and bricks and mortar
 - Regional, free standing sim centers supported by organizations / education / vendors
 - A sim hospital
 - Labs linked – sim- cam
 - Components of a sim system
 - Centralized resource center
 - prescheduled or just in time education
 - shared technology
 - expertise to create and run simulation
 - Portable (Mobile)
 - statewide travel – “time share”
 - Linked with other sim centers in state

- Components of a sim system (continued)
 - Statewide for specialty programs i.e. Phoenix Children's – Peds/Child
- Standardization
 - Statewide, web-based internet scenarios
 - Standardize debriefing process
 - Standardize training for:
 - faculty
 - users
 - All faculty in Sim lab are Certified – develop competencies – continuing education
 - Standardize sim via sim library for all to use
- Simulation Scenarios
 - Use real patient information for scenarios (all identifying information removed)
 - Cultural compliance
 - Emotional characteristics added to sim education
 - Cultural Taboos regarding “body likeness”
 - Have shared basic and advanced education
 - Library of resources, i.e. scenarios, tech support, programmers
 - Lab linked by using same scenarios (National League for Nursing [NLN])

Characteristics of a Simulation System:

- **Accessibility**
- **All levels of fidelity** included
- **Standardize** content and equipment
- **Interdisciplinary** and integrated with education and practice
- Inter-regional **cooperation**; systematic sharing
- **Research based** (evidence) to develop, evaluate, adapt
- **Outcome based** vs. Equipment based
- Would be (and stay) **state-of-the-art**
- **Repository** of shared info, data, research

Applications: How a Simulation System May Be Used:

- Can be used for:
 - Remediation
 - Guaranteed experience tailored to learner
 - Student / new grads to advanced practical refresher
 - Standardization
 - performance measures
 - preparation (students)
 - on-going (employees)
 - Performance based standards.
 - First state to require sim competencies – faculty
 - Validation of skill and statewide centers – competency
 - Identifiable high risk behaviors
 - All healthcare disciplines and teams – multidisciplinary
EMS, Lab, RRT, Public Safety, Pharmacy, Physicians
 - “On-boarding” new grads – feedback loop to schools providing
feedback to curriculum
 - Educators competency assessment on skill with sim
 - Common competencies among hospitals to eliminate reorientation –
similar to compact license

2. What are the benefits, barriers, and challenges in creating a statewide simulation system?

BENEFITS

On-Boarding:

- Potential to save money on on-boarding (but also costly to operate)
- Better skilled new nurses in less time
- Individualization of orientation plans
- Cross training of hospital staff
- Maintain currency and validate competency of experienced staff
- Rapid evaluation

Enhanced Satisfaction:

- Decrease nurse fatigue and stress on patients
- Decrease preceptor fatigue and burnout
- Higher patient satisfaction because nurses are more competent and skilled
- Has potential to smooth political difficulties among systems

Students and Nursing Programs:

- Students
 - Increased passing rates for student licensure exams
 - Provides known experience for students at “best practice” level rather than random experience at unknown level of practice
 - Continuity of expectations for students
 - Higher critical thinking for students
 - Documentation of practice issues
 - Objective measure of competencies
 - In rural Arizona expose students to clinical scenarios not readily available
- Curriculum adoption
 - Feedback to education program based on data collection made possible by sim on new grads and students
- Capacity
 - Expand capacity nursing enrollment and therefore increase number of new grads
 - Free up clinical space and relieve load on clinical preceptors
- Faculty
 - Improve faculty satisfaction
 - Development of standards and training for instructors. Like Air Force system of “check rides” before taking the lead with simulation creation of scenarios and to guide meaningful reflection.

Patient Safety/Quality:

- Higher quality
- Improve Patient Outcomes
- In terms of patient safety, it is the ethical thing to do
- Decrease medical errors/sentinel events

Patient Safety/Quality (continued):

- Improved results on nurse-sensitive outcomes, especially safety related ones (i.e. med errors, fall prevention).
- Exposure to adverse events in controlled setting
- Increased understanding of and practice of the team concept, especially in urgent situations.
- Potential to standardize excellent care through staff education based on best practices.
- Training for and assessment of standardized competencies
- Use scenarios written by experts, best practices, evidence based.
- Enhanced standardization

Financial (Trending):

- Lower risk management costs
- Reduced cost duplication
- Info one region could share with other regions
- Managing resources better (faculty inventory)
- Cost effective
- Increase revenue
- Grow with needs

BARRIERS/CHALLENGES:

Operational:

- Geography
- Accessibility
- Varied levels of use
- Educational differences
- Faculty knowledge base
- Faculty workload issues
- Infrastructure
 - Lack of leadership
 - Need for oversight vs. loss of autonomy and creativity
 - Scarcity of trained personnel to run the lab
 - Operational organization and infrastructure to start-up the project
 - Data sharing



- Infrastructure (continued)
 - Resources needed
 - Capital
 - Personnel
 - Tech people
 - Nurse educator
 - Scenario development
 - Technology
 - Space
 - Data analysis
 - Time
 - How to get to rural with mobile
 - Mobile units
 - Regional centers
 - partnerships
 - Collaboration
 - Cooperation
- Vendor Wars
- Compatibility of two vendors
- Housing, send students from rural areas to sim center
- Who owns the scenarios? Does the creator lose ownership? Intellectual property, copyright
- Challenges to results have legal implications.
- Regulatory issues.
- Currently no standards
- Consensus on standards
 - Need to develop clear standards for what must be learned in real clinical setting.
 - Training-achieving and enforcing baseline competency for operations-standards
- Creation of another bureaucracy
- Securing the right collection of talent

Cultural / Social:

- Differences in practice
- Could exacerbate rivalries and thus fail to provide statewide service
- Power struggles
- Who controls
- Combating rigidity

Cultural / Social (continued):

- Change
- Embrace high tech at expense of high touch
- Faculty / staff acceptance / resistance
- Lack of participation
- Making equitable for all
- Regional variations
 - Cultural
 - Economic
 - Resources
(infrastructure)
- Risk of losing hospital space
- Turf
- Performance anxiety, technophobes (dinosaurs)
- Healthcare providers willingness to shift from competition to collaboration
- Inconsistency in application and implementation
- Political
- Coordination
- Maintenance
- Flight simulation is a machine. Patients are not
- Integration of clinical and sim faculty
- Risk of completely replacing hospital clinical experience
- Sim is not a magic bullet
- Can't be lead by current empire leaders
- Are we breeding entitlement with hospital sponsored programs?

Financial:

- Time
- Sustainability
- Funding – individual organizations ability to participate?
- Annual fee for those participating
- Cost has to convert to ROI
- Who will pay for it?
 - Cost start-up on-going, labor intensive
 - Funding, where is it coming from?
 - equipment
 - training
 - ongoing orientation

Financial (continued):

- Distribution of resources (urban vs. rural; small schools vs. large schools; LPN vs. BSN etc...)
- If statewide and fiscal resources less. . . how can we keep minimal regulation?
- Unequal allocation of \$\$ possible

3. What are the cultural and relationship issues that need to be overcome in order to have a successful Arizona simulation system?

- Creating a **shared vision**
- **Interdisciplinary** multidisciplinary acceptance
- Give up **egos** and “**sacred cows**”
- **Attitude** or culture of “**exclusion**” of smaller, rural hospitals
- Acquisition of and **distribution of resources**
- Multi-state hospital systems
- **Ownership** of technology and information
- Political / **turf** wars / trust
- Mutual **respect**
- age / mindset
- **Geography issues**
 - Where the simulation lab is physically located
- **Competitors**
- Stakeholder and opinion leader **buy in**: hospitals, HMO, clinics, regulatory, schools.
- Rural vs. urban
- **Collaboration** with schools, hospitals and healthcare facilities, government
- **Control**: Who is in charge of the simulation lab system?
- **Trust** / Build and maintain a culture of trust among all shareholders
- **Standardization** vs. allowance for creativity
- Profit vs. Non-Profit
- County vs. State
- Partnership vs. Collaboration
- “tech” culture
- **Regulatory Issues**: Joint Commission, Centers for Medicare and Medicaid Services, National League of Nurses, Commission on Collegiate Nursing Education, Indian Health Services, Etc. . .

3. What are the cultural and relationship issues. . . (continued):

- Varying stakeholder needs
- Generational / Cultural / Spiritual / Familial issues of students and faculty
- System need for mediator
- **Competitiveness** for money, research, intellectual property and leadership between schools of nursing.
- Technical natives need to help the tech newbies
- Avoid changing **mission** to research
- Destroy the “change is bad” mentality
- Strong inter-professional use of Sim Mobile
- Cultural issue is the scenario for a BSN student vs. ADN, LPN, CNA
- Technology self-efficiency
- Find common ground for players i.e. Physician, RN, RT

4. What are the outcomes that demonstrate success for an Arizona simulation system?

Students:

- Standardized outcomes – not regionally different
- Influence curriculum
- Increase pass rates for students on licensing exams
- Feedback to educational programs based on data collected, made possible by sim
- Increased clinical thinking, clinical reasoning
- Early identification of students who will succeed / fail, so can use to remediate
- Offering predictable and consistent learning opportunities for students
- Increased perception of competence / student
- Increased learner confidence
- Training is culturally sensitive
- Multi-cultural access

Operational:

- Statewide access, high utilization
- Tracking of utilization and statewide access to sim system
- Increased access to simulation

Capacity:

- Decrease use of clinical space / time by students and increase in the number of students directly related to increase use of sim
- Increase clinical capacity in nursing programs

Financial:

- Equality of distribution of resources between rural and urban areas
- Lower length of stay for patients
- Decreased cost for hospital when on-boarding new grads
- Decreased orientation time for new hires
- Cost effective operations
- Funding and support available

Retention:

- Retention of experienced nurses
- Decreased new grad turnover
- Decreased preceptor fatigue / burnout
- Protection of preceptor resources

Safety/Quality:

- Standardized method of competency validation including travelers and registry preparation / retention
- Standardization of clinical competencies
- HCAHPS (Hospital Consumer Assessment of Healthcare Providers) improved consumer perceptions of healthcare
- Increased nurse sensitive indicators of patient outcomes, well being
- Decreased errors – sentinel events; better results nurse sensitive outcomes –based on sim scenarios
- Improved patient outcomes, i.e. core measures, patient safety

SUMMARY OF OUTCOMES

The facilitators reported there was consensus at their tables, that there is value in exploring the creation of a state-wide simulation system but many questions about how such a system would actually work. The following are outcomes/measures suggested that would demonstrate a successful state-wide simulation system:

- Increased competency
- Reduction in medication errors
- Opportunity for research
- Increased sharing and collaboration
- Changing the way healthcare education is taught
- Fewer sentinel events
- Education and Services agree on competencies for students
- Less orientation time for new grads
- Smoother transition from school to practice for new grads
- Reducing preceptor burnout
- Sim is a better measure novice competencies
- Enhancing team concepts
- Accessible and utilized state-wide
- Enhanced clinical reasoning
- Measure nurse sensitive outcomes
- Increased student confidence
- Predictable and consistent learning opportunities for students
- Higher standard of care at bedside
- Establish sim instructor standards, i.e. learn debrief and best approaches
- Feedback to schools from hospital regarding grad readiness, based on sim on-boarding data
- Pooling resources
- Writing scenarios
- Retention nurses profession
- Time share the center. Patient Safety professional development training
- Mobile units to rural areas
- Higher NCLEX pass rate, reduce new grad turnover, increase student capacity
- Increase professional satisfaction.
- Increase variety and availability of modules
- Distribution of cost

BOLD OFFERS:

- I would like to volunteer for continued involvement in this project (Frank Cummins VP, HR Sun Health)
- Standardization of simulation in nursing curriculum (Irma)
- Implement nursing education units – Contact Sun Health Nancy Zisman (↓ 1st year turnover 31% to ↓ 10%)
- (Jeanette Sasmor) I would like to be involved as this discussion continues statewide. I am very good at networking. 1st VP AzNA Nurse Education Chapter AzNA Director CE.
- I want to help create and Lead future simulation initiatives in Arizona. Dan Weberg, ASU.

BOLD REQUESTS:

- Patient contact only in last semester after passing content and simulation.
- Mobile Sim lab (like book mobile) for rural areas (*mentioned 2x's*).
- Arizona Data Center to run a statewide sim system (*mentioned 3x's*).
- Hands on skills competency test as part of NCLEX or entry into nursing.
- Build sim lab hospital (*mentioned 2x's*).
 - would be open as clinical space to all schools
 - could have day/night clinical or slotted hours with multiple simulations
 - not run by a facility or a school – third party so there is no favoritism
- Ask Laerdal or other vendor to build and equip regional state of the art simulation labs.
- Virtual world.(i.e. matrix)
- Graduate education programs directed towards expertise in simulation.
- Pair up grad students with nursing schools to create and run simulations.
- At the new hospital for the medical school downtown- have 200 patient beds and 200 simulated beds for all schools to use.
- Hospitals to dedicate a % of core staff to work in simulation labs with students.
- Include use of standardized patients (live; actors).
- Leadership development critical to sim lab success.
- Re-define training and development process to support the implementation of sim labs.

BOLD REQUESTS (CONTINUED):

- Let's figure out what the best patient care is and then figure out what nursing practice is based on that and then figure out how many RN's we need in Arizona. How do we know that the national ratio of RNs per 100,000 is a good goal or the correct one?
- Sim labs off-campus. Initial clinical work completed by sources outside of schools and industry. Needs to be accredited.
- Discourage hospital discrimination against private nursing schools. When a new grad passes NCLEX (National Council Licensure Examination) the nursing school should be praised.
- Simulation website, kiosk in malls, healthcare facilities schedule
- Develop statewide vision for sim lab use and availability.
- Nursing faculty funding freeze lifted from governor.
- Registry: Validate nurse competencies prior to assignment.
- State board to require CEUs (Continuing Education Units) for RN license renewal. Make it easier to on-board nurses who have been off floor for 10 years.
- Request for AzONE: Develop role for LPN acute care facilities that utilizes full scope of practice of PN. Can educate PNs 2-3x faster than RN, may extend RN's capabilities and fuel redirect up pipeline that can become RNs at a faster pace.
- Allow specialists such as pharmacist to teach pharmacology.
- Allow ADN's with 5 -10 yrs experience be clinical instructors.
- Change healthcare thinking culture. Remove barriers: Expectations, Experiences, Attitudes and Beliefs.
- Schools can share student experiences and work together.
- Units of simulation: Teaching units in each hospital.
- On-boarding in nursing school. On-board the basic concepts of nursing, not the specific hospital initiatives.
- Could we explore non-technology based simulations?
- Sim lab application available to high schools (AzHOSA).

PARKING LOT:

Some “Parking Lot¹” issues / statements collected during the Day of Innovation are placed with other like comments in this report under the appropriate questions. The comments below are those statements that did not seem to have a “home” elsewhere.

- Is there another state that is doing this and if yes, can we learn from them?
- Get students to create scenarios from simulation bank.
- Will the nursing board approve simulation time vs. live clinical time?
- What percent (%) of clinical time can be on simulation?
- Clinical hour restrictions by regulators
- SNF needs development to handle the students.
- CNA training (required clinical hours)
- Sim needs to be in lieu of not in addition to current clinical time.
- NCLEX model (**accountability**)
- Review and consider house bill 2041 (Arizona Patient Protection Act Introduced - HB 2041 Sets Safe Nurse-to-Patient Staffing Ratios, Ability for Nurses to Advocate for Urgent Patient Safety Measures).

¹ Parking lot: During the course of a meeting, important ideas or concerns arise that are not related to the topic at hand. When that happens, the issue is identified and placed in a "parking lot" so that it can be addressed at a later time. (summarization of the definition located on the answer.com website, <http://www.answers.com/topic/meeting>)