CHANGING LANDSCAPES AND ENVIRONMENTS IN HEALTH PROFESSIONS EDUCATION
Presenter Introductions

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Learning Outcomes

• Design working/learning environments to improve health science performance, recruitment and retention.

• Share the difference between chasing a trend and adopting a best practice, particularly in regard to the success of learning spaces.

• Identify learning space design strategies to mitigate and inform the impact of healthcare challenges ahead.

• Inform constituents and colleagues about the powerful influence of technological advancements such as artificial intelligence, immersive simulation, and virtual reality.

Continuing Education Credits
AIA LU 1.0 unit (SCUPC19C54)
AICP CM 1.0 unit
Agenda

• Nursing and Allied Health Profession Education
• Physician Assistant Studies – The Emerging Industry Surrogate
• Design Responses
  o Marquette University, Physician Assistant Studies
  o UNMC College of Nursing / University of Nebraska Health Center
  o University of Missouri Sinclair School of Nursing
• Successes and Lessons Learned
• Question & Answer
Future Success of Nursing & Allied Health Education

EMERGING HEALTH SCIENCES TRENDS

• Increased Nursing & Allied Health Workforce Demand
• Immersive Simulation / Technology Integration, Increased Level of Fidelity
• Evolving Curricular Models
• New Blended Workplace/Officing Approach
• Interdisciplinary / Inter-professional Skills / Curriculum
• Advances in Medical Data Management
• Emerging Health Sciences Research
• Lifelong Learning / Online Courses / Hybrid Courses
Four Challenges Facing the Nursing Workforce*

1. Aging baby boomers
2. Physician shortage
3. Retirement of registered nurses
4. Health reform

Nebraska Nursing Demand

- Nebraska Department of Labor (2016) reported that Nebraska had 24,672 RNs in 2016 & projects **27,529** by 2025.

- Projected openings by 2025:
  - New demand: **2,857**
  - Replacements: **13,147**
  - Total: **16,004**
## Nebraska Allied Health

<table>
<thead>
<tr>
<th>Profession</th>
<th>Number of NE counties without these providers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician Assistant</td>
<td>16</td>
</tr>
<tr>
<td>Physical Therapist</td>
<td>29</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>37</td>
</tr>
<tr>
<td>Medical Nutritionist</td>
<td>32</td>
</tr>
<tr>
<td>Respiratory Therapist</td>
<td>22</td>
</tr>
</tbody>
</table>

Nebraska Allied Health Demand

Nebraska Department of Labor estimates a total of 5,800 job openings for allied health professions in Nebraska by 2025.

<table>
<thead>
<tr>
<th>Profession</th>
<th>Annual Openings</th>
<th>Profession</th>
<th>Annual Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV Interventional Technologist</td>
<td>50</td>
<td>Medical Lab Science</td>
<td>130</td>
</tr>
<tr>
<td>Dx Med Sonographer</td>
<td>40</td>
<td>Occupational Therapy</td>
<td>90</td>
</tr>
<tr>
<td>Genetic Counselor</td>
<td>N/A</td>
<td>Physical Therapy</td>
<td>130</td>
</tr>
<tr>
<td>Medical Nutritionist</td>
<td>50</td>
<td>Physicians’ Assistant</td>
<td>90</td>
</tr>
<tr>
<td>Medical Resonance Imaging Tech</td>
<td>10</td>
<td>Radiation Therapist</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radiation Technologist</td>
<td>120</td>
</tr>
</tbody>
</table>
Trends in health professions education

• Increase in experiential learning
• Focus on team-based learning
• Emphasis on clinical learning environment
• Importance of informal learning and collaboration
• Learning any time, anywhere
• Harnessing technology
Issues we need to address

• Clinical site shortages
• Need to use technology to expand access to high risk, low volume clinical experiences
• Faculty shortages
• Need to maximize access to experts
PHYSICIAN ASSISTANT STUDIES
History of Physician Assistant Profession

• 1965 - Duke University
• Highly trained Navy Corpsmen
• Fast track medical ed post-service
• Creative solution to physician shortage at the time
• Shortage of 100,000 by 2025
Physician Assistant Profession Today

- 246 accredited US programs; 57 in development
- 27-month average program length
- Terminal degree - graduate Masters
- No part-time options
- Some direct entry, most bachelors prior
- #3 “Best Job” and #1 “Healthcare” job 2019 - US News
Trends in Physician Assistant Education

- Increasing diversity
- Faculty and students
- Easing physician shortage
- Filling rural shortages
- Post-graduate training programs
- Marketing
- Professional doctorate programs

- Improving legislative environment
- Interprofessional Education (IPE)
- Expanding specialty care roles
- High fidelity simulation to supplement (not replace) clinical experiences
- Point of care ultrasound (POCUS)
DESIGN RESPONSE
MARQUETTE UNIVERSITY
PHYSICIAN ASSISTANT STUDIES
Marquette University

• Catholic, Jesuit University founded in 1881
  o Milwaukee, WI
• Urban Collegiate Setting
• 8,400 undergrads; 3,200 graduate students
• 83 majors and pre-professional
• 14:1 Student-to-Faculty ratio
• Average Class size of 23
Marquette Physician Assistant Program

- College of Health Sciences
- Started in 1997 with 30 students
- In 2019, admitted first class of 75
- Expansion due to increased need and demand
- 100% job placement rate; just under 100% first-time PANCE pass rate over last 12 years
- Graduates practice in wide range of specialties, many in subspecialties
- Ranked 26th in US News, up from 40th in 2018
Balancing Planning, Synergies, Growth
Exposure

• City Scale
• Neighborhood Scale
• MU Connections
Floor Plans
Floor Plans

1st Floor
Floor Plans

3rd Floor
Building a Community

• Connections to neighborhood
• Social learning
• Learning styles
• Presence & Accessibility of Faculty / Staff
Building a Community

- Connections to neighborhood
- Social learning
- Learning styles
- Presence & Accessibility of Faculty / Staff
Simulation
DESIGN RESPONSE
UNMC COLLEGE OF NURSING & UNIVERSITY OF NEBRASKA-LINCOLN HEALTH CENTER
The UNMC CON / UNL UHC Vision

• A premier campus DESTINATION
• Preeminent health professions education
  o To be BEST IN CLASS, THE nursing school of choice
• Expand nursing research
• Recruit and retain the best nursing faculty, staff, and students
• Create a spirit of COLLABORATION
• On TIME and within BUDGET
• Wellness & well-being
Making a Place

- Residential Zone
- Outdoor Space
- Identity
a. Pharmacy  
b. Physical Therapy  
c. Wellness / Yoga  
d. Offices  
e. Simulation Center  
f. Skills / H.A. Labs  
g. Outreach / SS  
h. SIM Commons
Flexibility & Opportunity
Exposure

- Nursing Education – the premier floor
- Simulation as central
- Design – invites to explore and engage
Advancing the Nursing Program

- Opportunistic Partnership
- Emerging active learning models
- Deep / Broad learning platform
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Flexibility & Opportunity
DESIGN RESPONSE
UNIVERSITY OF MISSOURI
SINCLAIR SCHOOL OF NURSING
MU Sinclair SON: Background

- Founded 1920 within School of Medicine
- BSN, MSN, RN, RN to BSN, DNP programs
- Sinclair School of Nursing facility completed 1979
- Top 50 (Online Master's and DNP)
- Research:+1500% since 1995; $30+M (Top 30 NIH, NIN)
The Richness of the MU Campus

- Patterns
- Networks & Paths
- Connections
- View Corridors
- Physical relationships
- Academic / Clinical relationships
- ‘Soloist vs chorus’
- Variety vs. Similarity
- ‘Inter’ vs ‘Intra’
Vision for SSON: Success Factors

• Nursing Ed Growth: +30-40% - Increased utilization

• Transformation to Active Learning culture & models

• Promote Nursing Research

• Flexibility

• Simulation / Clinical Integration
Defining the Range

$13 M
1A: 62,076 GSF
1B: 53,683 GSF
1C: 59,683 GSF

$17 M
2A: 59,683 GSF
2B: 71,383 GSF

$20 M
3A: 70,833 GSF
3B: 70,183 GSF
New Facility

- Image and identity
- Campus presence
- Outward focused
Space utilization analysis

- Examined existing utilization
- Determine optimum classroom sizes
- Utilization of spaces will impact growth
- Increase simulation, large venue
- **Goal of 70% utilization**
New Facility

- Image and identity
- Campus presence
- Outward focused
New Facility

- Image and identity
- Campus presence
- Outward focused
New Facility

- Image and identity
- Campus presence
- Outward focused
Active Learning Models

• Supporting emerging curricular models

• Flexible / Convertible

• Deep / Broad learning platform
Collaborative Research
Research Suite
SUCCESES & LESSONS LEARNED
Do Your Homework

- Peer Institutions
- Tours & Conversations
- Business plan and strategic program
- Detailed space program
Technology

• Be informed early to invest later
• Integration
• User adoption period
• Project Management
Governance, Decision Making & User Input

- Tap into your own team
- Don’t get caught in the past
- Ask ‘Why’ five times
- Interprofessional outreach
Collaboration

• Collaboration is key – with architects, planners, faculty, staff, students, clinicians
• Input from all end users is essential
• Plan for technology!
• Need plenty of student interaction space
• Incorporate space for research & innovation; e.g., maker spaces
Questions?