Using an inter-professional scholar program to engage bedside nurses in the quality of improvement process.

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Conflict of Interest & Disclosures:
Objectives:

1. Describe the key components of an inter-professional scholar program aimed at improving the care of vulnerable patients.

2. Discuss how staff nurses are engaged in the application of quality improvement tools to improve the care of patients across the organization.

3. Discuss the impact an inter-professional scholar program has had on the care of vulnerable patients at a large academic medical center.
A Call To Action...

Institute of Medicine (IOM): Core Competencies for Health Professionals-
1. Provide Patient Centered Care
2. Work in interdisciplinary Teams
3. Employ Evidenced Based Practice (EBP)
4. Apply Quality Improvement
5. Utilize informatics
6. (*QSEN added “Safety” list)
• Members of a professional group tend to see the attributes of their group as positive and those of other groups as less desirable

• Certain types of people are attracted to certain specialties – enhancing the we/them Tribe mentality

• Despite progress, healthcare remains hierarchical

• Geographic layout and work flow lead to professions relying on ‘opportunistic meetings’
“There is a dearth of clinical programs with the multidisciplinary infrastructure required to provide the full complement of services needed by people with common chronic conditions.”

This is Value Based Purchasing.
Number of Older Americans, 1960-2040 (in millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>65-84</th>
<th>85+</th>
</tr>
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<tbody>
<tr>
<td>1960</td>
<td>17</td>
<td>1</td>
</tr>
<tr>
<td>1980</td>
<td>23</td>
<td>2</td>
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<tr>
<td>2000</td>
<td>31</td>
<td>4</td>
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<tr>
<td>2020</td>
<td>47</td>
<td>7</td>
</tr>
<tr>
<td>2040</td>
<td>65</td>
<td>15</td>
</tr>
</tbody>
</table>

Who is “Vulnerable” and unable to tolerate “Usual Care”

Functionally and Cognitively Intact (room to spare)

Functionally or Cognitively Impaired (no margin for error)
Who is “Vulnerable” and unable to tolerate “Usual Care”

Functionally and Cognitively Intact (room to spare)  
Functionally or Cognitively Impaired (no margin for error)

- 1/3 of patients over 70 years and more than half over 85 leave the hospital more disabled than when they arrived
Outcomes

Delirium

- **Mortality** for hospitalized patients with delirium is 22-76% (similar to AMI or sepsis)
  - One year mortality 35-40%
- 3-5 times risk for other nosocomial complications
- Adds ~$2,500 to the hospital cost per patient

Functional Decline

- 1-year outcomes for patients discharged with functional decline
  - 30% recovered
  - 28% alive, but not recovered
  - 42% dead

References:

Older Adults represent a large, complex, and vulnerable patient population. The lessons learned from caring for older adults is transferable to other patient populations.

The Gap:
- Provide healthcare professionals with the knowledge, skills, and attitudes needed to improve the care of complex and vulnerable patients.
The mission of NICHE is to educate nurses with the knowledge and skills to provide best practice care and to position nurses as change agents in the settings in which they work to improve the quality of care delivered to older adults.

http://www.nicheprogram.org/history/

There are 77 million baby boomers in the U.S. 10,000 turn 65 each day.
The UAB Hospital NICHE Story

Retooling Geriatric Education to Make it Sticky

The “Why”

Knowledge, Skills, & Attitude

Process Improvement Hardwired

Geriatric Processes Hardwired in the Care Environment

Geriatric Care becomes just…. Care

A System-Based Approach
UAB Hospital Geriatric Programs
Prior to 2008
2017- NICHE Expands to Encompass New Interprofessional Department for UAB

Department of Interdisciplinary Practice and Training

- Geriatric Scholar Programs
- ACE Unit
- ACE Tracker
- Virtual ACE
- Hospital-Wide Early Mobility
- HELP Program
- Hospital-Wide Training
- Interprofessional
- Patient Support

GNLA Project: HELP Expansion
The Journey From 2008 to Present....

Geriatric Scholar Curriculum modeled on NICHE’s Geriatric Resource Nurse (GRN) curriculum.

Acute Care for Elders (ACE) Unit - 2008

NICHE Organization 2008

NICHE

Inter-professional Geriatric Scholar Program - 2009

Patient Support Geriatric Scholar Program - 2011

Total Number of Scholars – 2016
  • Inter-professional program -252
  • Patient support program -24
What is the key to the ACE unit outcomes...
Adapted from slide by SUMMA Health Care

ACE Is a Model of Inter|Trans-professional Coordinated Care in the Hospital

**Functional Older Person**

**Depressed Mood**
**Negative Expectations**

**Acute Illness, Possible Impairment**

**Hospitalization: ACE Unit**

**Prehab Program:**
- Specialized environment
- Patient-centered, interdisciplinary care
- Multi-dimensional geriatric assessment and non-pharmacologic management with nurse driven care
- Daily medical review
- Care transition planning from day 1

**Improved Mood**
**Positive Expectations**

**Reduced Impairment**

**Decreased Iatrogenic Risk Factors**

**Functional Older Person**
ACE Units Have Been Shown to:

- Improved functional performance at discharge
- Improved likelihood of living at home after discharge
- Reduced high-risk medication use
- Improved nutritional support during hospitalization
- Reduced restraint use
- Improved patient and provider satisfaction
- Reduced length of stay
- Reduced health care utilization costs
- Reduced 30-day readmissions

## UAB ACE Study

### Comparison of ACE vs Usual Care: FY 10

<table>
<thead>
<tr>
<th></th>
<th>ACE Unit</th>
<th>Usual Care</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of beds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% patients age ≥ 70</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>39.2%</td>
<td>40.3%</td>
</tr>
<tr>
<td><strong>Unit nursing staff allotment (WHPPD)</strong></td>
<td>9.75</td>
<td>9.75</td>
</tr>
<tr>
<td><strong>Physical therapists FTE: bed ratio</strong></td>
<td>1:19</td>
<td>1:26</td>
</tr>
<tr>
<td><strong>Attending Physician</strong></td>
<td>Hospitalists</td>
<td>Hospitalists</td>
</tr>
<tr>
<td><strong>Formal Geriatric Consultation available upon request</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Evidence-based delirium prevention care processes</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Volunteer mealtime assistance program</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Daily Geriatrician led IDT Rounds for Geriatric Care Management</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Counselor for patients/families</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>All DRGs</th>
<th></th>
<th>Top 25 DRGs</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACE (N=428)</td>
<td>UC (N=390)</td>
<td>P Value</td>
<td>ACE (N=260)</td>
<td>UC (N=214)</td>
<td>P Value</td>
</tr>
<tr>
<td>LOS (days); Mean (SD)</td>
<td>4.0 (2.7)</td>
<td>4.2 (2.8)</td>
<td>0.34</td>
<td>3.7 (2.4)</td>
<td>4.1 (2.8)</td>
<td>0.11</td>
</tr>
<tr>
<td>Variable Direct Cost/Case ($) ; Mean (SD)</td>
<td>$2,109 ($1,870)</td>
<td>$2,480 ($2,113)</td>
<td>0.009</td>
<td>$1693 ($1063)</td>
<td>$2138 ($1431)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Patients readmitted to UAB within 30 days of discharge</td>
<td>7.9%</td>
<td>12.8%</td>
<td>0.02</td>
<td>7.3</td>
<td>11.2</td>
<td>0.14</td>
</tr>
</tbody>
</table>

No difference in age, gender, race, comorbidity scores, or CMI between groups; Flood et al, JAMA Int Med 2013;173:981-7.
Potential Cost Savings from ACE-Like Care Coordination

UAB Hospital Discharged 19,880 patients age ≥ 65 in FY 13

Variable Direct Cost Savings = $371/case

Suppose only 9000 older adults benefit from ACE model

= $3,339,000 savings in variable direct cost every year
The ACE unit is great for those 20 patients, but what about the patients not geographically located on the ACE unit?

What about “vulnerable patients” under 65?

The Geriatric Scholar Program (GSP) was created to address that need.
Interprofessional Program (2 years)

Patient Support Program (1 year)

Geriatric Scholar Programs
Six Sigma – 8 Wastes

- Overproduction
- Transportation
- Waiting
- Inventory
- Movement
- Scrap & Efforts
- Under-utilized People
- Overprocessing
Patient Support Program:

- Started in 2014

- 1 year program for non-licensed staff

- HIGHLY engaged

- Program culminates in storyboard education project for respective unit/team.
**Patient Support Program**

- **Content Focus**
  - Age-related sensory loss
  - The Four “Fs” - frailty, function, feeding, & falls
  - Supportive Therapies – Speech, RT, PT, OT
  - Comfort needs – Pain, Sleep, Palliative Care
  - The Three “Ds” – Delirium, Depression, & Dementia
  - Care strategies for patients ready to go home
UAB Geriatric Scholar Interprofessional Program: Year 1 Training

- Initial Workshop: 16 hours
- Monthly Lunch and Learns: 1 hour
- 12 Hours of Hands-on clinical experience with geriatric providers:

<table>
<thead>
<tr>
<th>Rotation</th>
<th># Hours</th>
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<tbody>
<tr>
<td>Long Term Care Facility</td>
<td>2</td>
</tr>
<tr>
<td>Simulation Session</td>
<td>4</td>
</tr>
<tr>
<td>Clinical Rotation (Geriatric consult, ACE Unit, PCCU, Geri Psych., Wound care, Speech, OT, Dietician)</td>
<td>6</td>
</tr>
</tbody>
</table>
Assigned Readings &/or Modules:

- NICHE Knowledge Center –
  - http://elearningcenter.nicheprogram.org/
- Evidence-Based Geriatric Nursing Protocols for Best Practice 4th Edition

Assigned Activities:

- Cognitive Assessments
- Functional Assessments
- Medication Review
Geriatric Scholar Program Core Curriculum

- Functional Assessment
- Iatrogenesis
- Sensory Impairment
- Delirium
- Dementia
- Depression
- Polypharmacy
- Interprofessional Team Models of Care
- Pain Assessment
- Pain Management
- Palliative Care/Advance Directives
- Ethics/Decision-Making
- Ethnogeriatrics
- Transitions in Care
- Incontinence
- Falls
- Nutrition
- Pressure Ulcers
- Osteoporosis
Geriatric Case-Based Simulations

- Pre-Testing
  - Functional Assessment
  - Delirium
  - Polypharmacy/Medication History
  - Care Transitions

- IDT Meeting
- Post-Testing
- Session Evaluation
Quality Improvement

- Reduces Variability
- Use PDSA cycle
- Small iterative changes
- Pre and Post data to show improvement

Evidenced Base Practice

- Translation of best practices into clinical practice
- External literature supporting practice change

Research

- Generates new knowledge
- IRB for all projects – dissemination
- Early projects provide insights and pilot work
Lunch and Learns: 9 hours
- Teach literature review
- Teach process improvement using PDSA methodology
- Project work
- Prepare story boards

Projects displayed at Annual Scholar Program Quality Symposium
Geriatric Scholar Program Specifics

Key Components

Telling the “Why”

Expectation Setting and Accountability

Celebrate All Successes
Key Component: Selective Application Process

- Getting the right people on the bus
- Application with short essays
- Interviews
- Supervisor recommendation
- Not obligated to take everyone
Key Component: Kick-Off Workshop Tells the “Why”

- Win hearts and minds on day 1 of a 2 year program
- 16 hours of interactive sessions with LOTS of stories
Breakout Activities

Concept Mapping

Interprofessional Team Meeting (based off a real case)
Practicing a New Model of Care: Interprofessional
Tell Them the “Why” in All Sessions
Some respond to data; most respond to and remember stories from real people

- Names of loved ones
- Patient cases told throughout
- Bring in family and patients to teach
- Music, videos
- Reflective journaling
- Walking in another’s shoes
Family members teach in scholar workshop each year

Daughter of patient with delirium and husband with dementia

Granddaughter (and hospital COO) of patient with functional decline and unplanned readmission

Alzheimer’s patient and Berga Slave Labor Camp Survivor, WW II, with his daughter

## Setting Expectations and Accountability

UAB GSP Activities Tracking Form
Geriatric Scholar Class of 2015
October 2013

### Scholar Name:

Activity Examples: Classes, One on One Ed, Newsletters, Storyboards, Staff Meeting, Quality Projects, Safety Fair, Magnet Geri, TJC Geri, EBNP Geri, CAP Geri, Safety Geri, Geri New Products, Recognition of Excellence (Awards), Professional Organization Membership, Team or Committee Membership

### Geriatric Education Performed by Geriatric Scholars

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity Description</th>
<th>Topics taught</th>
<th>__Minutes</th>
<th>Participants: # / Job Title</th>
<th>Comments / Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex: 10/26/13</td>
<td>Staff meeting</td>
<td>Lecture/discussion on how to perform the Katz Index</td>
<td>10 minutes</td>
<td>15 RNs, 6 PCTs, 1 US</td>
<td>They loved it!</td>
</tr>
</tbody>
</table>

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Knowledge that will change your world
Celebrate ALL Successes
Geriatric Scholar Program Annual Quality Symposium

- ~220 attendees in 2016
  - Health system and hospital CEO, VPs, Dept. Leaders
  - Scholars and supervisors
  - Donors, patients/families
  - Potential collaborators
- GSP program development and link to hospital goals presented
- Scholarly work/PI projects presented
- National presentations summarized
- Graduating scholars honored
- New scholars and programs introduced
Results to Date: Exponential Impact
Exponential Impact of Geriatric Scholars
Empowered by “The Why”

18 Scholars

• NICU RN training
• Graymatter Newsletter
• Vasc Surgery Unit Training
• Nursing Conferences
• Callahan Eye Foundation Hospital Staff Teaching
• ACE Unit Training
• Safety Fair
• Others

IMPACT:
> 600 Nurses and Staff Reached with New Geriatric Content by Scholars
UAB’s GSP: Ongoing Exponential Impact

Beginning of time – 9/09

0 Scholars

252 Scholars (RN, NP, PA, ST, OT, PT, RT, Pharm, CM, SW, PCT, Lab Tech, Chaplain, Quality, Pt Flow, Unit Secretary, Artist, Pt Navigator)

9/09-10/16

>40 Practice Areas (Hospital, Clinic)
Scholar Projects Used for Rapid Cycle Change: A Model for Big Goals

- Break a Big Goal into several smaller goals
- Frequent Small Changes
- Celebrate success at each step!!

DARE TO THINK SMALL!!

"The team with the most cycles wins!"
Geriatric Scholar Program Process Improvement
Projects Hardwire Geriatric Care

FY 11
7 projects/
9 practice areas
3 function
2 dementia/
delirium
2 care transition

FY 12
5 projects/
11 practice areas
2 function
2 delirium
1 pressure ulcer

FY 13
4 projects/
10 practice areas
1 function
1 delirium
1 med rec
1 pressure ulcer

FY 14
7 projects/
8 practice areas
2 function
3 dementia/
delirium
1 care transition
1 pain
1 creating non-licensed GSP

FY 15
10 projects/
10 practice areas
3 delirium
3 care transitions
1 function
1 nutrition
1 orientation
1 technology

FY 16
12 projects/ 14 practice areas
2 delirium
2 care transitions
4 Function
1 pain
1 Caregiver Stress
1 polypharm.
1 nutrition
Scholar Projects as a Means of Hardwiring Geriatric Care Hospital-Wide via Rapid Cycle Change

FY 12: Pilot Katz Index to assess baseline and current fxn at time of admission on 3 units

FY 13: Katz Index added to EHR
Katz assessment on 3 more units

FY 13: New hospital-wide process for Katz documentation and automatic consults to case management staff

FY 14: Pilot test Safe Mobility Sim Session and Protocol and training Care Transition Staff on fxn

FY 15: Care Transition Simulations conducted focusing on fxn & cognition

ACE Tracker Embedded in EHR
Anchoring/Hardwiring New Processes in the System: Example from UAB’s GSP Projects via Rapid Cycle Change

FY 12: Pilot Katz Index to assess ADLs at time of admission on 3 units

FY 13: Katz Index added to EHR
And expanded to 3 more units

FY 13: Hospital-wide roll out of Katz documentation and automatic referral triggers to case management

FY 14: Pilot test Safe Mobility Sim Session and Protocol based on Katz score

FY 15-16 Rolling out Safe Mobility Protocol hospital-wide

Progressive Hardwiring of Processes at Same Time ACE Tracker Embedded
5 Years of Laying the Foundation to Get to the Real Goal: “Acefying” a Hospital via “Virtual ACE”

First UAB Virtual ACE Unit: Orthopedic Surgery

Virtual ACE Units:
  2 Ortho,
  2 Trauma, and
  2 GI Units
Unit-Based Care Delivery Redesign that trains all providers in:

- The “Why”
- Function/Safe Mobility
- Pain Assessment and Management
- Delirium Prevention and Management
- Care Transitions
- All coordinated with ACE Tracker

Delirium Prevention Toolbox
A “Virtual ACE” Team Meeting

Names listed above are not actual patients. These are used for simulation cases only.
EVERY patient deserves STOP DELIRIUM Care!

- **Safe Mobility:** Follow the MOVE algorithm for Safe Mobility
- **Tethers:** Remove/wean off any unnecessary tethers (oxygen, IVFs, Foley, restraints, telemetry, etc.)
- **Orientation/cognitive stimulation:** lights on during the day/quiet environment at night; family involvement; determine normal day to day routine. Cognitive stimulation using Delirium Prevention Toolbox items.
- **Pain:** Follow the I AM RID of pain algorithm
- **Drugs:** Review med list for BEERS List with team/pharmacy. Place pharmacy referral for med review if needed.
- **Eyes, Ears:** Give patients with sensory loss pocket talkers & reading glasses.
- **Loss of sleep:** Review appropriateness of nighttime interventions
- **Infections:** Watch for signs of UTI, pneumonia, other infections
- **Retention of urine:** Watch for abd distention or reduced urine output; check bladder scan if these are present.
- **Impaction/constipation:** Assess for BM at least every other day (or normal routine at home). Use/ask for laxative.
- **Under-hydration, under-nutrition:** Watch for BUN/Cr ratio ≥ 18; encourage po fluids/supplements or IVFs if needed; Place referral to Dietician.
- **Metabolic abnormalities:** Monitor sodium, calcium, glucose
Results: Improved performance of geriatric screens

Performance of Katz Index and Six Item Screen at time of patient admission. Performance of at least 1 NUDESC in the prior 24 hours at time of research assistant visit.
Results: Improved mobilization of patients

“In the last 24 hours did you....”

<table>
<thead>
<tr>
<th></th>
<th>Trauma Units Pre</th>
<th>Trauma Units Post</th>
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</thead>
<tbody>
<tr>
<td>Get up to chair</td>
<td>37%</td>
<td>50%</td>
</tr>
<tr>
<td>Walk in room</td>
<td>38%</td>
<td>42%</td>
</tr>
<tr>
<td>Walk in hall</td>
<td>13%</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>GI Units Pre</th>
<th>GI Units Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get up to chair</td>
<td>61%</td>
<td>71%</td>
</tr>
<tr>
<td>Walk in room</td>
<td>81%</td>
<td>70%</td>
</tr>
<tr>
<td>Walk in hall</td>
<td>45%</td>
<td>56%</td>
</tr>
</tbody>
</table>
Results: impact on delirium prevalence and satisfaction with pain management

- Significant improvements in provider knowledge and self-rated competency
- Providers, patients, and caregivers satisfied with Virtual ACE model of care

Outcomes data not shown:

If you/your loved one had pain, how well did your care team from this unit control your pain?
LOS, Throughput, Readmissions Initiative

Bed Management
(Reiff, Lindsay)
- Medical Necessity
- Enhance Role of SW/CM in ED
- Triage RN/ED CM Book Appts.
- Transfer Back Policy
- System Wide Capacity Alert
- Teletracking
- Bed Capacity/Allocation

Discharge Planning
(Flood, Clarkson, Pruitt, Grammas)
- Pharmacy
  - Admission Med. Rec
- D/C Specialist
- Continuity of Care Document
- Outpatient Tests/Procedures
- Hospital Wide Mobility Program
- Admission/DC Criteria
- SNF Contract
- House Call Program
- Transition of Care Clinic

Care Coordination
(Garretson, Flood, Grammas)
- Department/Staffing
- Transition of Care Rounds
- Estimated Date of Discharge
- Reports
- Specialty Focus DRGs
- Readmissions

Initiatives directly supported/informed by geriatric programs and scholar projects
Summary

- Engagement of frontline staff to be change agents works
  - “Train the trainer” approach
- System-wide and national impact from participants in the Geriatric Scholar Program
- Principles are impacting care delivered to all vulnerable, high risk patients not just the older adults
- Model is being used to implement a Diabetes and Addiction Scholars Program
- Institute of Medicine (IOM): www.iom.edu
- IOM Crossing the Quality Chasm Brief Report, March 2001