UF College of Nursing and UF Health: Partnering to Improve Patient Care, Education and Clinical Research
Example of Collaboration:

Maximizing the Electronic Health Record to Improve Nutrition in Hospitalized Patients

Malnutrition: Scope of the problem

- Prevalent across all healthcare settings

<table>
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<tr>
<th>Healthcare Setting</th>
<th>Prevalence</th>
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<tr>
<td>Hospital</td>
<td>30-50%&lt;sup&gt;1-4&lt;/sup&gt;</td>
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<tr>
<td>Long-term care</td>
<td>21%-51%&lt;sup&gt;5&lt;/sup&gt;</td>
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<tr>
<td>Outpatient &amp; Homecare</td>
<td>13-30%&lt;sup&gt;5&lt;/sup&gt;</td>
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- Risk is increased in:<sup>6</sup>
  - Older adults
  - Critically ill patients
  - Patients with comorbid chronic diseases, e.g., cancer, COPD, chronic kidney disease

Circle of Malnutrition in the Hospital

The Vicious Circle of Malnutrition in Hospital

- Nutritional status that gets more precarious
- Unplanned readmission
- Increased morbidity and increased major complications
- Increased length of stay and decreased access to services
- Increase in care prolongation
- Return to compromised home food supply
- Increased mortality
- Prolongation / aggravation of malnutrition
Oral Nutrition Supplementation (ONS) has shown significant clinical benefits

**Reduction in Pressure Ulcer Incidence**
- 25%
- 0.75 95% CI (0.62-0.89)

**Reduction in Serious Complications**
- 19%
- P<0.001

**Reduction in Avoidable Rehospitalizations**
- 30%
- P=0.004

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Purpose/Aims of the Project

- Reducing variation of care processes by standardizing nutritional order sets in a new Electronic Nutrition Administration Record (ENAR)
- Linked nutrition tab in the medication administration record (ENAR)
  - Scheduled administration of nutritional supplements in ENAR
- Evaluate the effects of a process improvement strategy to improve the administration and documentation of ONS
  - Staff satisfaction with process changes
- Improvement in administration of ONS as compared to pre-assessment
  - Increased % of formula not returned to food & nutrition services as compared to pre-assessment
## Methods

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<th>Multidisciplinary team &amp; phase-implementation of ENAR in healthcare organization</th>
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<td>Triangulated approach to evaluate pre- and post-process change</td>
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<td>Medical record reviews, patient interviews, formula room log reports, and staff surveys</td>
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<tr>
<td>Assessment of system (workflow, ordering, evaluating) before, during, &amp; after ENAR</td>
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<tr>
<td>Building, testing, training of new ENAR</td>
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<td>Staff education/training</td>
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<td>Implementation &amp; evaluation of process changes</td>
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Baseline (Pre-Process Change)

Data Collection: Nov. – Dec. 2014
UF Health Gainesville Units 54, 64, 7 West, 8 East

Patient Interviews/Chart Reviews
124 patients / charts identified; 111 patients / charts included in final analysis

Survey was sent via email to 3,155 nurses (RNs, ARNPs, PCAs), 173 surgery staff physicians, 315 medicine staff physicians, 734 college of medicine house staff

375 responses. 282 RNs, 37 physicians, 2 PAs, 11 ARNPs, 14 Dieticians, 29 PCAs
17 questions - ONS ordering, administration, documentation, assessment, & evaluation
## Baseline Data: Quick Facts

### Patient ONS Knowledge – Opportunity to improve?
- 49% of patients did not accurately know what ONS product they were ordered.
- 80% of patients did not accurately know the amount and frequency of ONS products that they were ordered.

### Medical Record Review, ONS consumed – Do we have a clear picture?
- 85,920ml ONS products were delivered to the patients to be consumed
- Only 4,675ml (18%) of ONS volume was documented as consumed (with comments that it was ONS) in the intake and output section of the patient medical records
- Other 82%? → Majority returned to formula room, small portion possibly patient received but not documented?
- Formula room return data: Average: 76% ONS returned
- 12/11/14 – 81% ONS products returned unused
- 12/4/14 – 87% ONS products returned unused
- 12/3/14 – 62% ONS products returned unused
- 11/19/14 – 75% ONS products returned unused

### ONS tolerance – How do we know?
- 85% physicians, 80% ARNP/PAs, & 91% of Dietitians reported “cumbersome” to “difficult to impossible” to find information on ONS tolerance

### ONS Intake – Where do we find info?
- 52% physicians reported looking in “dietitians notes”, 13% reported looking in “nurses notes”, 13% reported “physicians/extender notes”, 13% reported “intake and output record”, 4% reported looking in the “nutrition record”, 4% reported “asking the patient”

### Is ONS offered as it should be? – What could be interfering?
- The most frequently reported reason for patients not consuming the ONS product in the prescribed amount was that “it was not offered to the patient” (54%)
- 83% of patients reported that if they were offered ONS, they accepted it.
Change to ENAR

• All adult units at UF Health Shands
• Process change included all oral nutritional supplements and tube feedings

Staggered Approach
• Vista & Rehab went live in early fall 2015
• Shands Pediatrics set to go-live February 2016
• UF Health Jacksonville to follow in Spring 2016
Process Change – Ordering Nutrition as Medication Order Set

- UF Nutrition - ADULT oral and tube feed
  - You may select more than one order in this panel.
  - To order additional Additives or Supplements, you will need to open the panel again.

- Adult nutrition - Additives
- Adult nutrition - ORAL supplements
- Adult nutrition - BOLUS tube feed
- Adult nutrition - CONTINUOUS tube feed
- Adult nutrition - CYCLIC tube feed
- BOLUS water/saline flush for tube feed
- CONTINUOUS water or saline flush with option of Additives for tube feed
Process Change: Administration and Documentation in eMAR/ENAR
Preliminary Results – Post ENAR

- **Formula Room Returns:**
  - 11/4/15: 60% returned
  - 11/13/16: 49% returned
  - 11/17/15: 58% returned
  - 12/2/15: 49% returned
Preliminary Results: Post ENAR

86 patient charts reviewed, 57 patient interviews conducted

Administration Status: 86/86 documented, with reason if not given

If Not Given – most common reason: “not given-patient/family refused”

56% patients had nutrition care plans created

Received Patient ONS education:
52.6% yes,
31.6% no,
unsure 15.8%

After ONS education: ~74.4% reported an increase in acceptance of ONS from prior to education, with 64.1% likely to take ONS at home after discharge
% of Nurses who reported “VERY EASY” to do things r/t ONS
Pre vs. Post ENAR

Survey Monkey Survey (post): 173 completed interviews:
129 RNs, 28 Physicians, 1 ARNP, 1 PA, 8 Dietitians, 6 PCAs
Staff Survey – Nurses Post ENAR

- 52.82% think it improves ability to evaluate patient nutritional status
- 72.53% think it results in patients getting more of the ordered ONS products
- 66.66% think it has a positive effect on practice
- 59.86% think it makes them more aware of patients’ nutritional status
- 66.2% think it has improved patients’ overall intake of ONS
- 70.81% feel improvement in documentation accuracy
Lessons Learned

- Multidisciplinary approach needed
- Evidence based approach is essential
- Talk to your colleagues
- Find out other disciplines perspectives about issues
- Nurses have a real opportunity to improve patient care and outcomes
- Potential implications on reimbursement, outcomes
Need for Nutrition Education for HCPs

- Nutrition Education for Nurses – 1 CE
- Importance of Nutrition in Hospitalized Patients: Benefits of Oral Nutritional Supplements
- Education Module in MY Training - Spring 2016
- Developed by CON faculty and UF Health Dietitian in collaboration with UF Health Nursing Education Committee
- Future – develop CE for physicians / ARNPs / PAs
Importance of Nutrition in Hospitalized Patients: Benefits of Oral Nutritional Supplements

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Questions?