

NACNS 2018 Conference

Reducing Aspiration Pneumonia using Quality Improvement

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The Hospital of the University of Pennsylvania (HUP)

- Located in Philadelphia, PA
- 789 bed quaternary academic medical center*

Adult Admissions	34,691
Outpatient Visits	1,696,718
ED Visits	61,250
Births	4078
Physicians	1,968
Professional Nurses	1,800+

- Part of the University of Pennsylvania Health System
- Magnet designated since 2007
- Annually recognized as one of the nations best by *U.S. News & World Report* in its Honor Roll of best hospitals.

*Penn Medicine Facts and Figures, 2016



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Located in West Philadelphia



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Aspiration Pneumonia



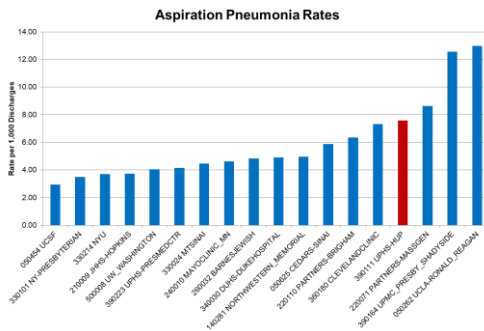
Aspiration Pneumonia (AP) Background

- AP results from oropharyngeal or gastric contents entering the larynx and lower respiratory tract and becoming colonized by bacteria
- AP leads to increased morbidity, mortality, and longer lengths of stay
- Dysphagia is the most significant risk factor for AP

At our Institution:

- Rates of AP for medical patients at HUP were higher than the national average
- This pattern was consistent on three medical units where AP rates were among the highest in the hospital.
- Quality Improvement utilizing Plan-Do-Study-Act (PDSA) Methodology was initiated to mend our metrics

United Health Consortium (UHC) Comparative Data



Clinical Process Improvement- Plan Phase

- ♦ Identify the problem
- ♦ Assemble process owners
- ♦ Determine where to pilot
 - One third of DOM cases on S11, F12, F14
- ♦ Map current process
- ♦ Identify options to improve practice
- ♦ Develop initiative
- ♦ Rapidly pilot
- ♦ Monitor outcomes

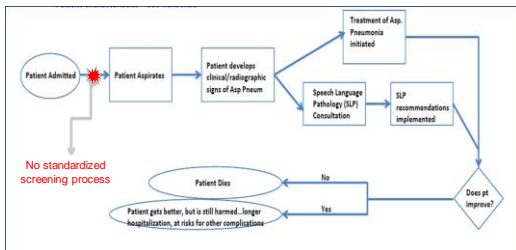


Project Team- it takes a village

- ♦ S11, F12, F14 UBCL
- ♦ Clinical Nurse Specialist (CNS)
- ♦ Speech Language Pathology (SLP)
- ♦ Nursing Information System
- ♦ Executive Leadership



Current Process Mapping-Pre Intervention



Quality Improvement → Do Phase

- **The role of the CNS had a significant impact on the project implementation:**
 - Collaborated with SLP to refine evidence based practice (EBP) screening tool to utilize at the point of care
 - Partnered with Nursing Information Systems to have assessment and documentation built into electronic health record (EHR)
 - Mentored clinical nurses to implement a "champion" model for training and validation
 - Developed the validation tool to demonstrate competency
 - Provided shoulder to shoulder support to clinical nurses at the point of care
 - Monitored the process and audited performance
 - Provided feedback to staff in real time
 - Performed case reviews for new AP cases

Quality Improvement → DO Phase

- **A three step evidence based practice (EBP) screening tool was used to identify all patients on admission to unit**
- **Step 1**
 - Pre-screen Assessment → includes past medical history and structural limitations
- **Step 2**
 - Perform a psychomotor and level of consciousness assessment
 - Focus on mental status, oxygenation and physical abilities
- **Step 3**
 - Perform a 3 oz water test
 - Observe patients for a minute for potential signs or symptoms of aspiration
- **Decision support has been built into documentation**
- **Assists with identification of Pass or Fail results**
- **Daily shift reassessment follows for length of hospitalization**

Pass or Fail...What comes next

- **If a patient passes:**
 - provider orders the appropriate diet
- **If a patient fails:**
 - NPO
 - SLP formal consult is requested
 - Pree challenge for medication administration
- **At any time during hospitalization, a clinical nurse can rescreen and request SLP consult**

Documentation in EHR

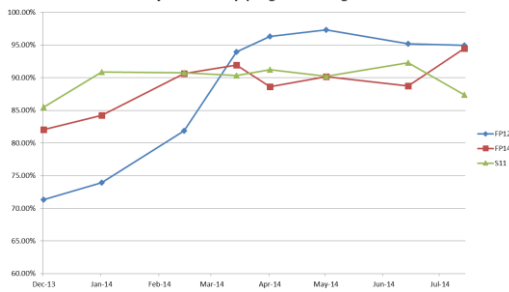
Three Part Screening and Daily Reassessment on Assessment flow sheet

Part I: Aspiration Risk Tool					No exclud.
☑ Pre-Screen Assessment (Exclusion)					No Exclud.
Part II: Psychomotor/Level of Consciousness/Respiratory Assessment					No Exclud.
☑ Psychomotor/Level of					No Exclud.
Part III: 3 oz. Water Swallow Test					No Offical.
☑ 3 oz. Water Swallow Test - Monitor for 1					No Offical.
Aspiration Risk Screening Results - MUST select option during initial screening					
☑ Results					Pass Pres.
Shift Aspiration Risk Assessment					No risk fac.
Shift Aspiration Risk Assessment					No risk fac.

Most recent documentation is clearly visible to the clinical nurse and providers

Quality Improvement → Study Phase

Project SIT UP Dysphagia Screening Rates



We achieved a screening rate greater than 90%

Metrics- Impact on Workflow

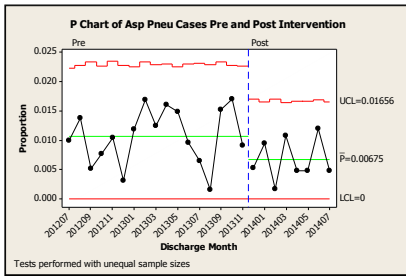
DOW	Ct of Failures	Median time to Consult(Hrs)
Sunday	24	23.5
Monday	42	14.5
Tuesday	49	14.0
Wednesday	26	11.5
Thursday	32	15.5
Friday	40	10.5
Saturday	20	38.5
Grand Total	233	15.0

Weekend consults took consistently longer than weekday requests

> 50% of the failures already had a consult

Identified the need for more SLPs and to extend their days of coverage

Metrics- Patient Outcomes

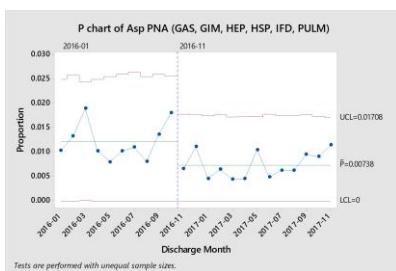


AP cases pre intervention and 6 months post intervention
Demonstrated a 40% reduction of AP cases initially

Quality Improvement → Act Phase

- Refinements to the tool have been made
 - New EHR implementation → EPIC
- Annual competency for all new staff
- Expanded to other units throughout the hospital
 - CNS partnered with SLP to work with individual service lines
- Built into our Knowledge Link → assigned to all new staff
- Collaborative effort for all entities
- CNS has been instrumental in the standardization of care and products to reduce AP

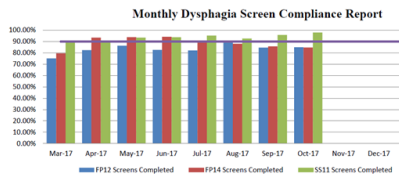
Sustaining our Improvements in care



Sustained a rate of 7% across the three medical units.
Which translates to a 40% reduction.
AP cases are reviewed by the CNS to identify areas of opportunity.

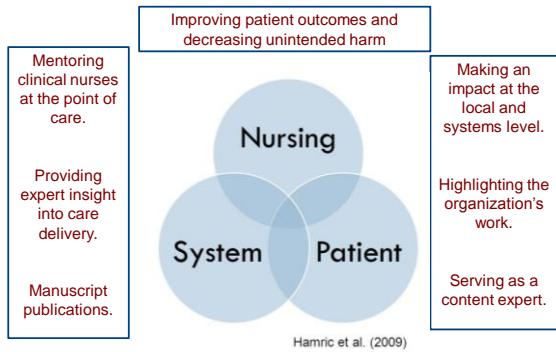
Nursing Screening compliance

Process Metrics – October 2017



Sustained an 85% screening compliance rate
 CNS runs a weekly report and provides real time
 feedback to clinical nurses

CNS Impacting the Three Spheres of Influence



References

- Hamric, A. B., et al. (2009). *Advanced practice nursing; an integrative approach* (4th ed.). Philadelphia: W. B. Saunders.
- Suiter, D.M., & Leder, S. B. (2008). Clinical utility of the 3-ounce water swallow test. *Dysphagia*; 23:244–250.

Thank You