Improving Patient Safety Through a Dynamic Model for Graduate Medical Education

2009 Quality Colloquium at Harvard

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August 18, 2009
“Doctors are well prepared in the science-base of medicine.”

“Doctors are well prepared in the skills necessary to care for individual patients.”

“Few are qualified or trained with the skills to improve care and improve patient safety.”

- David B. Nash, MD, MBA
Dean, Jefferson School of Population Health
IHI Open School Audioconference: April 27, 2009
A FOCUS ON QUALITY MANAGEMENT METHODOLOGY IN RESIDENTS’ EDUCATION IS PARAMOUNT
Why Quality Management Methodology is the Focus of Residents’ Education?

- To meet the National interest (ACGME)
- To orientate the physician towards a Just Culture by:
  - Reinforcing the researcher role
  - Empowering the clinician to make sustainable change
  - Providing the insight to view issues in the aggregate as opposed to a population of one
  - Aligning personal/professional goals with strategic healthcare goals
  - Making them the engine of change
Multidimensional Geriatric Medical Education

The Art of Observation™

Field trip to The Frick Collection, a New York City museum, with a focus on improving skills of observation and description through the study of portraiture

Advanced Communication Skills Workshop

Focused on development of interpersonal communication skills and doctor-patient relationship

Didactic Educational Sessions

Geriatric Research and Education Summer Core Curriculum
Quality Management Methodology

- Geriatric Fellowship
- Research & Education
- Geriatric Services
  - Acute
  - Non-Acute
- Quality Management Methodology
How to Incorporate Quality Management into Medical Education

✓ Develop curricula to address the requirements for:
  ✓ Systems-based Practice and
  ✓ Practice-based Learning and Improvement competencies

✓ Combine didactic methods:
  ✓ Lectures
  ✓ Case studies/group

✓ Empower resident-initiated quality management research projects that involve:
  ✓ Group feedback and mentoring
  ✓ IRB approval
Changing Thought Encourages a New Way to Think About Clinical Practice

- Residents are asked to operationalize their clinical experience
- Residents are trained to examine assumptions underlying care
- Residents are taught to work in teams
- Residents are required to apply statistical analysis to evaluate their practice
Changing Thought Requires Residents to Ask – and Answer – Hard Questions

- Why is this procedure necessary?
- What are the risk/benefits of specific treatment options?
- How do physicians and patients/families determine whether palliative care or intervention is the appropriate option?
- How can physicians ensure that patients understand and consent to treatment?
Changing Thought Requires Residents to Ask – and Answer – Hard Questions

- What criteria should be used for patient selection for procedures/treatments?
- What ethical issues are involved with certain procedures/treatments?
- How can physicians assess the effectiveness of their communication with their patients?
- How can effective channels of information transfer with other professionals be evaluated?
Specific Course Instruction Includes Developing Research Skills and Techniques from Hypothesis to Publication

- Prioritizing an issue for analysis and improvement
- Understanding the role of the null hypothesis
- Using the medical record as a resource
- Developing assumptions for defined project
- Reviewing the relevant literature
- Defining a project
- Identifying variables
- Understanding issues about appropriate sample size
- Defining the appropriate numerator and denominator for the patient population being studied
- Defining appropriate measurements
- Collecting data
- Gaining familiarity with IRB approval requirements
- Communicating results effectively to peers via journal articles or professional presentations
Applied Clinical Quality Management and Research Methods
Project Template for Project Development and Presentation

This template will be used as a logical framework for the presentation of all work throughout the course, beginning with the July 2, 2009 didactic session and ending with the July 28, individual project presentations.

i. **Topic** – Why and how topic selected. Significance/Relevance of your selected topic.

ii. **Research Question**? Formulate into one question and should be clear and concise and identify phenomena to be studied.

iii. **Building your case** by conducting a thorough Literature Review (Why this topic is important and what is the impact to your study population). Summarize the literature.

iv. **Hypothesis**. (Define the Null Hypothesis in quantifiable terms)

v. **Definitions/Criteria**: Numerator/Denominator/Inclusion/Exclusion

vi. **Variables**: Independent/Dependent (list key variables and identify the impact that they have on your study population)

vii. **Data Collection Tool**. (Consider this your data abstraction instrument which will need to be pretested)

viii. Where is the data located that you are considering collecting?
End Results: Manuscripts in Press and Publications

N = 6

End Results: Regional, National and International Presentations

N = 49

- American Medical Directors’ Association
- American Geriatrics Society
- Society of Healthcare Epidemiology of America
- American Public Health Association
- Academic Internal Medicine Week
- American College of Preventive Medicine
- Accreditation Council for Graduate Medical Education
- Various other scientific meetings
Objective: The National Pressure Ulcer Advisory Panel (NPUAP) introduced in 1997 the Pressure Ulcer Scale for Healing (PUSH tool) to track healing. The tool consists of three parameters measured weekly: length times width, exudate amount, and tissue type. We sought to study the correlation between the PUSH measurements and the traditional nursing observational records.

Objective: The most commonly used test is stool enzyme immunoassay (EIA) detecting toxin A and/or B, but there are no clear guidelines specifying the optimal number of tests to be ordered in the diagnostic workup, although multiple tests are frequently ordered. Thus, we designed a study with the primary objective of evaluating the diagnostic utility of repeat second and third tests of stool EIA detecting both toxins A and B (EIA (A & B)) in cases with negative initial samples, and sought to describe the physicians’ patterns of ordering this test in the workup of suspected CDI.
2009-2010 Research Projects

**GERIATRIC MEDICINE:**

- Differences in Attitudes and Knowledge of Pressure Ulcers Between Nursing Homes and Hospitals Employees
- When Physicians Become Caregivers for Older Family Members: Communication Challenges with Primary Care Practitioners
- Impact of Physician Order Protocol on Bladder Re-Catheterization in Hospitalized Elderly
- The Two-Step Tuberculosis Skin Testing: Knowledge, Attitudes and Behaviors of Health Care Practitioners
- Post-Mortem Family Satisfaction with PEG Placement Decisions in the Older Terminal Ill Patient
- Why Are Physicians Not Prescribing Vitamin D Supplementation in Long-Term Care Facilities?
- Correlation Between MOLST Penetration in Long Term Care Facilities and Rehospitalization Rates
- EMS Responses to Advance Directives in Older Patients
- Impact of Geriatric Health Problems on Caring For Pediatric Population
- Correlation Between Attending Physicians’ Attitudes Towards Physical Exam and Bedside Teaching
2009-2010 Future Improvements

**ANESTHESIOLOGY:** A Prospective Analysis: Comparing the Rates of Neuraxial Anesthesia Administration on Laboring Patients Before and After Implementation of a New Departmental Assessment and Education Policy

**OB/GYN:** Investigation of incidence, etiology and intervention of postpartum anemia in obstetric patients

**PEDIATRICS:** Compliance of Parents with Safe Sleep Practices Advocated by Pediatricians during the First Month of Life

**PATHOLOGY:** Pathology Collaboration Enhances Dysplasia Recall Rate

**PHYSICAL MEDICINE & REHABILITATION:** A test/questionnaire such as "The Test of Practical Judgement" may be used as an adjunct in the discharge process of patients with mild-moderate traumatic brain injury and patients suffering from cerebrovascular accident to assess their ability to comprehend and make well-informed decisions regarding their follow-up care

**RADIOLOGY:** Is it necessary to check serum creatinine levels in diabetic patients on Metformin 48-hours after the administration of intravenous nonionic contrast?

**INTERNAL MEDICINE:** Analysis of RIFLE Criteria for Acute Kidney Injury in Diabetic versus Non-diabetic Patients admitted to the Critical Care Unit

**INTERNAL MEDICINE:** Early Nutrition Therapy in a Critical Care Unit and its Impact on Morbidity and Mortality
Residents/Fellows are graduating as desirable candidates equipped with tools and valuable experience in research and publication.