Future Think: Clinical Reasoning, Care Coordination and Health Analytics

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Objectives

• Describe six generations of nursing process.
• Appreciate the value of standardized terminologies that support clinical reasoning and future developments related to health analytics.
• Define four types of analytics.
Generations of Nursing Process

- 1950-1970  Problems to Process
- 1970-1990  Diagnoses and Reasoning
- 1990-2010  Outcome Specification/Testing
- 2010-2030  Knowledge Modeling
- 2030-2050  Prescriptive Nursing
- 2050-2070  Predictive Nursing
Care Coordination Clinical Reasoning

The application of critical, creative, systems, and complexity thinking to determine the practice issues, interdependencies and interconnections of role relationships for collaborative work in service of caring for people to address problems, interventions and outcomes through time and across health care contexts and services

Kuiper, Pesut, Arms (in press)
Levels of Knowledge Complexity

- Data
- Information
- Knowledge
- Mental Models
- Wisdom
Representation and Reasoning

- International Classification Nursing Practice (ICNP)
- Unified Medical Language System (ULMS)
- Nursing Problem List Subset Snow Med CT
- CMS Measurement Management Blue Print
- Standardized Terminologies
NURSING PRACTICE DATA: THREE LEVELS

INDIVIDUAL LEVEL

Clinical Nursing Knowledge
Nurse’s Clinical Decision Making
Patient’s Data Documented

UNIT/ORGANIZATIONAL LEVEL

Patient Demographics
Financial Management Data
Health Care Facility Data
Health Profession Team Data
Nursing Management

Network/State/Country Level

Network: Examples
• Kaiser Permanente
• United Health Care Corp.
• Humana, Inc.

State Data Sets: Examples
• Iowa’s Community Health Management Information Systems (CHMIS)

National Data Sets: Examples
• Uniform Hosp. Discharge Data Set (UHDDS)
• Ambulatory Care Minimum Data Set
• Long-Term Care Minimum Data Set

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1-2-4-All in motion. Multiple short cycles are more productive than one longer session.

What opportunities do YOU see to move forward?

1 minute alone

2 minutes in a pair

4 minutes in a foursome

5 minutes in the whole group

1-2-4-All engage everyone simultaneously in generating questions/ideas/suggestions
Data Complexity and the Fourth Paradigm

1. Experiment & Measurement
2. Analytical Theory
3. Numerical Simulations
4. Data Intensive Computing

Data fusion + data mining + synthesis/learning + explanation

What is Big Data?
Analytics New Path to Value

- Descriptive: What is happening?
- Diagnostic: Why did it happen?
- Predictive: What is likely to happen?
- Prescriptive: What should I do about it?

Transforming Health Care

Health Analytics

- epatient 2015
- Guiding Principles for Big Data in Nursing
- Designing Usable Clinical Information Systems
- The Value of Analytics in Health Care
- University of Minnesota Center for Informatics Big Data Conferences
Knowledge Work Questions

• What did you appreciate about the presentation?

• How did the presentation influence your thinking and feeling?

• What is your commitment to action?