

Healthcare Systems

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Objectives

- ▶ Describe why healthcare is considered a complex adaptive system.
- ▶ Explain how quality improvement led to an increase of systems thinking in healthcare.
- ▶ Using the 5 Whys, identify the root causes of an issue, and how it ties back to the larger system.

Introductions

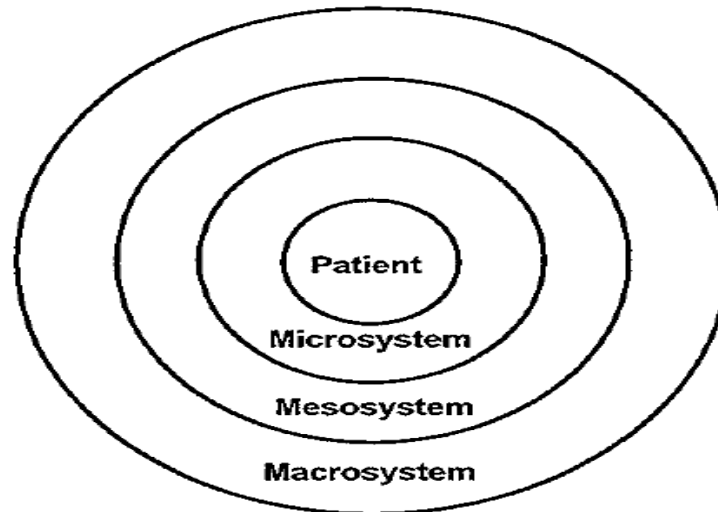
- ▶ Name
- ▶ Major
- ▶ What comes to mind when you think of a Healthcare System?

Healthcare Systems

- ▶ Healthcare is a system within a system...

The Joint Commission Journal

**Embedded Provider Units in a
Health System**



Healthcare-Not Just A System, But A Complex Adaptive System

Mechanical Systems

- ▶ Linear
- ▶ Static
- ▶ Goals and behaviors in accord
- ▶ Single points of control
- ▶ Someone is “in charge”
- ▶ Expected results
- ▶ Understandable from observation
- ▶ Complex rules-predictable outcomes

Complex Adaptive Systems

- ▶ Nonlinear
- ▶ Dynamic
- ▶ Independent agents with competing needs
- ▶ Multiple levers to pull
- ▶ No one seems “in charge”
- ▶ Unintended consequences
- ▶ No model sufficient to explain outcomes
- ▶ Simple rules-complex, unpredictable, emergent outcomes

The Industrial Model for Process Improvement

As health care became more costly and complex, health services researchers and payers began to ask two questions:

- ▶ What are the outcomes of all this knowledge and money?
- ▶ If we have the best health care in the history of the world, shouldn't we be getting better outcomes all the time?

What Do We Mean When We Talk About Quality in Health Care?

It depends on who is asking the question.

- ▶ Physicians, nurses, other direct care providers
- ▶ Payers
- ▶ Administrators
- ▶ Population health researchers
- ▶ Regulators
- ▶ Legislators
- ▶ And...patients

Meanwhile, in a parallel universe....



The definition of quality was being redefined by W. Edwards Deming - 1900-1993.

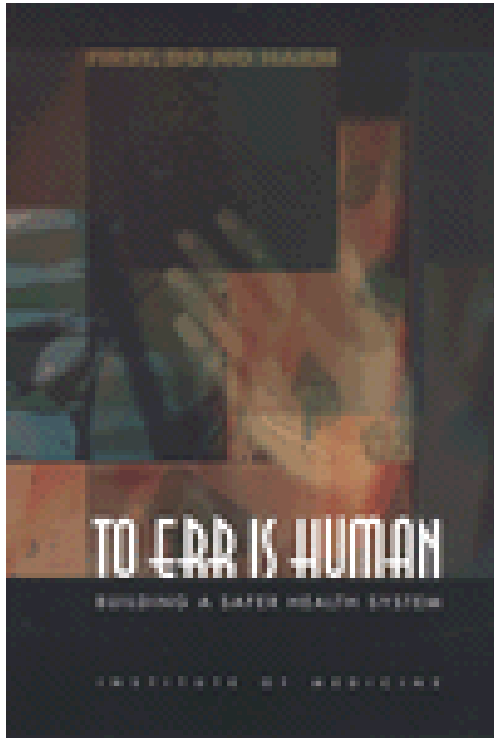
- Production improvement during WWII.
- Redesigned post-war Japanese manufacturing.
- Developed a theory of quality management related to systems thinking, statistical analysis, understanding of the effects of variation and redesigning the role of management.

The Industrial Model for Process Improvement

The period of 1985-2000 was characterized by:

- ▶ Industrial engineers having a place at the table.
- ▶ An internal focus as hospitals struggled to understand and improve their processes of care.
- ▶ Development of measurement systems that were institution-specific and often not of much interest to the doctors.
- ▶ A recognition that process improvement was only part of the quality issue for health care.

And Then The Public Started Getting Involved....



- Medical error causes more deaths each year than breast cancer or motor vehicle accidents.
- 44,000-98,000 people die each year as a result of preventable medical errors.

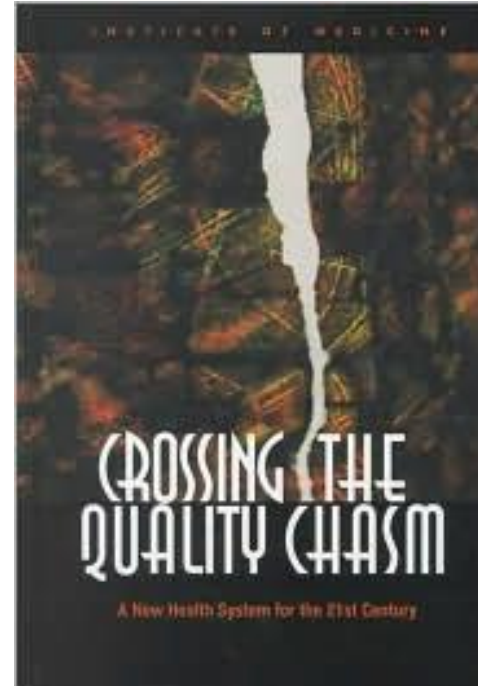
IOM 1999

The 21st Century View

Health care should be:

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable

-Institute of Medicine 2001



OLD MODEL



NEW MODEL

- ▶ Discontinuous
- ▶ See an MD
- ▶ Manage disease
- ▶ One patient
- ▶ Pay for piece work activity
- ▶ Individual physicians/providers
- ▶ More care to fewer
- ▶ Full hospital beds
- ▶ Inpatient
- ▶ Anecdotal
- ▶ Increasing specialization
- ▶ Physician entrepreneurs
- ▶ Silos
- ▶ Provider-centered
- ▶ Passive patients

- ▶ Continuous
- ▶ See the appropriate provider
- ▶ Manage health
- ▶ Populations of patients
- ▶ Pay for value bundles
- ▶ Health care professional teams
- ▶ The right care to each
- ▶ Keep them empty
- ▶ Community-based
- ▶ Evidence-based
- ▶ Primary Care is king
- ▶ Physician employees
- ▶ Systems
- ▶ Patient-centered
- ▶ Activated patients

The Result?

- ▶ Evidence-based medicine advancing at an accelerated pace
- ▶ Focus on quality rather than quantity
- ▶ Outcomes research now federally funded through the Accountable Care Act
- ▶ Increased focus on continuity of care
 - ▶ Medical Homes
 - ▶ Transitional care programs
- ▶ Health care costs still out of control, but rate of increase moderating
- ▶ Costs for healthcare distributed more evenly
- ▶ Required coverage for basic services

More work still to be done...

Exercise

- ▶ Stand up!!

Case Examples

- ▶ 1. Person
- ▶ 2. Department
- ▶ 3. Organization

The Five Whys

- ▶ Root Cause Analysis
- ▶ Ensures you are looking at the bigger picture



- Staffing very stable
- Why?**
 - Large number of management points
 - Decision by management
 - Historic
- Employ own cleaning staff at high rates
- Cleaners local people with strong connection to company
- Have allowed some queue jumping
- Plan still has 3 years to run
- Company X decided not to reapply 2 years ago
- Co-ordinator's salary now in main company budget
- Roll drop in January
- Knock-on impact in other areas, eg. FSM, SPP
- Greater variety of facilities available
- Better economic climate for new ventures
- Health and safety issues
- Management have stopped overtime

Your turn to practice...

