Agency for Healthcare Research and Quality

State Healthcare Quality Improvement Workshop:

Tools You Can Use to Make a Difference

January 17-18, 2008

DATA to Maine PEOPLE
Information Actually

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Tools You Can Use to Make a Difference
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Goals of Presentation

- Brief background and principles of Maine Quality Forum

- Understand Maine's data advantages

- Demonstrate and explain *Maine Hospital Quality Snapshots* web site

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Data show less nursing care at EMMC Hours logged at Bangor hospital below level of similar centers

By Meg Haskell
OF THE NEWS STAFF

Source:
Bangor Daily News
Thursday, 10/11/2007
Edition: all, Section: a, Page 1

EMMC NURSING CARE HOURS DATA (2006)

Number of RN care hours per patient day:

| TIME PERIOD	AT EMMC	AT SIMILAR MAINE HOSPITALS*
January-September '06	5.81	6.31
October-December '06	6.94	6.86

Number of total nursing care hours (including RNs, LPNs and nursing assistants) per patient day:

TIME PERIOD	AT EMMC	AT SIMILAR MAINE HOSPITALS*
January-September '06	7.93	8.82
October-December '06	9.42	9.52

* Hospitals in EMMC's category include Central Maine Medical Center in Lewiston; Maine General Medical Center in Augusta and Waterville; and Maine Medical Center in Portland.

Source: Maine Quality Forum (Dirigo Health)

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Delayed Time to Defibrillation after In-Hospital Cardiac Arrest
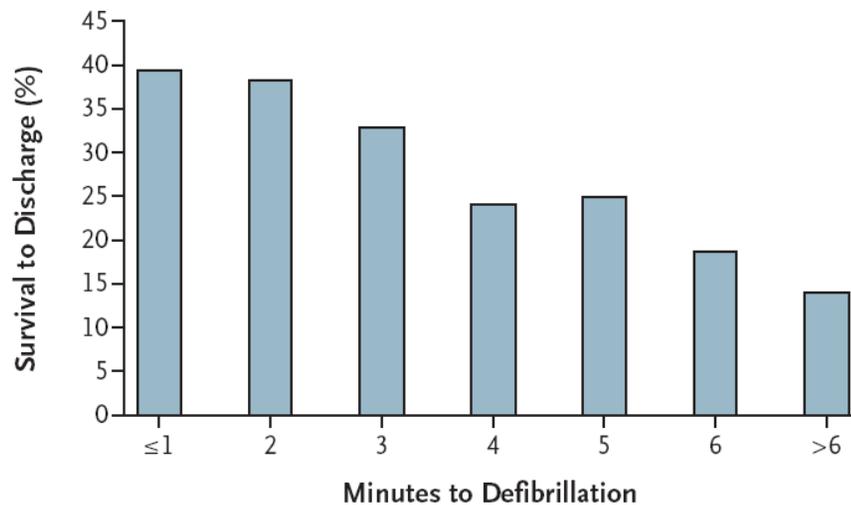
Minutes to Defib- rillation	No. of Patients	Survived to Dis- charge	Unadjusted Odds Ratio (95% CI)	Adjusted Odds Ratio (95% CI)	P Value
≤1	3994	1577	Reference	Reference	—
2	750	286	0.94 (0.81–1.10)	1.02 (0.85–1.21)	0.85
3	472	160	0.78 (0.64–0.96)	0.84 (0.67–1.05)	0.12
4	291	67	0.46 (0.35–0.61)	0.50 (0.37–0.67)	<0.001
5	394	98	0.51 (0.40–0.64)	0.54 (0.42–0.70)	<0.001
6	145	27	0.35 (0.23–0.54)	0.39 (0.25–0.61)	<0.001
>6	743	103	0.25 (0.20–0.31)	0.27 (0.21–0.34)	<0.001

Chan, Krumholz, Nichol, Nallamothu. "Delayed Time to Defibrillation after In-Hospital Cardiac Arrest," New England Journal of Medicine, Vol. 358, No. 1, January 3, 2008, p. 16.

The Maine Quality Forum

- Created as part of the Dirigo Health Agency
    - Access, Cost and Quality Triad
- Tasked with assessing the quality of healthcare in Maine and reporting information to the people of Maine
- Tasked with promoting and public reporting of comparative use of best practices in Maine
- Pursue mission of providing actionable information about health care quality in easily accessible format

Addressing the Mandates

- Used IOM definition (STEEEP) as guiding framework
  - right thing, the right way, at the right time for each patient
- Employ known levers of change

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Levers of Change

- Change requires accountability and transparency
  - Both healthcare system and MQF
- The People of Maine as a constituency
- Data describing best practices and outcomes are essential

Supporting Levers of Change

- Both "administrative" data and provider submitted data
- Common understanding of metrics is essential
- Information understandable by the public is a key driving force
- Communication target not necessarily the change target

Maine Advantages

- Tradition of self-examination: Maine Medical Assessment Foundation (MMAF) and small area variation analysis (SAVA)
- Long standing discharge data base
- Leader in "all payer", paid claims database
- Accomplished partners in Maine Health Data Organization (state) and Maine Health Information Center (private)
- MQF drives data submission through rule making (science confused with self interest)

Data Process

- Started with Small Area Variation Analysis (SAVA)
- Participated in the Tri-partite group of Pathways to Excellence to gain buy in of metrics
- Developed initial website with a key data component

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Initial Website

- Used small area variation analysis on procedures and inpatient activity of interest
- Presented data via bar charts developed in Excel
  - Graphs presented hospitals significantly different from the expected
- Provided data tables for drill down
- Good start but difficult to understand
- Very difficult to update new data runs
- MQF site for example www.mainequalityforum.gov

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Revision Process

- MQF and Advisory Council concurred:
  - Simpler representation
    - ***Don't' Make Me Think***
  - Broader audience
  - More than one view of the data
  - Drill down from simplest to most complex (visual to raw data)
- Needed to include new data (Chapter 270)*

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Next Steps

- Intrigued by dial graphics representation used by AHRQ Quality Snapshots
- Reached out to AHRQ (Dwight) who brokered relationship with Thomson and Academy Health
- Connected with Thomson (aka Medstat)
- Provided us with code

Medstat

- MQF Determined a need for support
  - Methods
  - Web design
  - Training
- Contracted with Medstat
- Contracted with RADCorp
- Began process of applying methodology to Maine's data
- Training MHDO Epidemiologist

Methodological Challenges Encountered

- Small "N"
  - Limited by number of hospitals
- Small "n"
  - Limited by number of measures
  - Limited by number of cases within measure
- Regression Model
- Nursing Data
- Phase II SAVA-Geographic Information Systems (GIS) design

Stakeholder Contributions

- Maine Hospital Association
  - PTE process
- Northern New England Quality Improvement Organization
- Nursing Data
- Public Process
  - Advisory Council
  - Multi-stakeholder involvement
  - Multiple views
- Other political considerations

Common Consistent Stakeholder Differences

- Patient
  - If I previously had no information; am I not better off if I have information that provides a better that 50/50 chance of improving the outcome of my choice?

- Provider
  - Don't show a difference unless there is a 99/100 chance that there is a substantive difference

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Resolutions

- Change to speedometer
- Change methodology
  - Regression model
  - Data inclusion/exclusion
- Nursing Data Representation
- Descriptive Language

- New MQF data site: 207.103.203.51

Phase II

- GIS maps for variation analyses
- New Chapter 270 data

Maine Quality Forum B Website

http://207.103.203.51

Also, www.mainequalityforum.gov

Cardiology Results

- ## Distribution of services vary despite similar risk profile
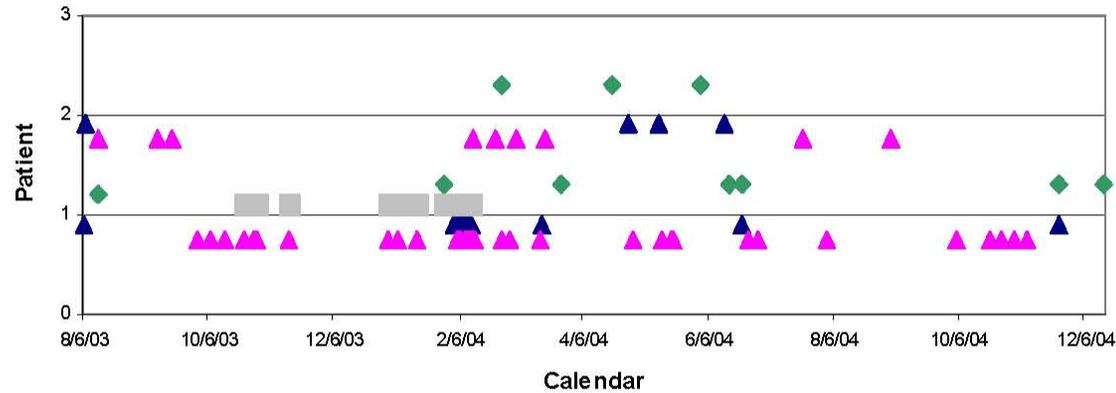
▲ Cardiology E&M Visit ▲ Other Specialty E&M Visit ◆ Cardiac Test ● Cardiac Procedure ▨ Inpatient Stay

- Patient 1 – 65 year old Female, Risk Score 3.04
  - Diagnoses include: Angina, congestive heart failure, rheumatoid arthritis, hypothyroidism, chronic kidney disease
  - Initial Visit with Dr. A 8/6/03
  - Over next year, Patient 1 is seen by 7 other members of Dr. A group (30 cardiologist visits)
    - 2 MDs provided IP coverage
    - 5 MDs performed cardiac testing including (Cath, ECHO, Stress Testing, Perfusion studies, ECGs)
  - Patient 1 was seen by Nephrologists (7 visits), Rheumatologist (3 visits) and Surgeons (8 visits)
  - Patient 1 was seen by an Internist for 8 visits

- Patient 2 – 71 year old Female, Risk Score 3.07
  - Diagnoses include: Atrial fibrillation, COPD, rheumatoid Arthritis
  - Initial Visit with Dr. B 8/7/03
  - Over next year, Patient 2 is seen by 1 cardiologist (4 cardiologist visits)
    - 2 MDs performed cardiac testing including (1 ECHO, 1 Stress Test and 1 Perfusion study)
  - Patient 2 was seen by Rheumatologist (2 visits), Pulmonologist (1 visit) and Ophthalmologist (1 visit)
  - Patient 3 was seen by an Internist for 2 visits

Health Dialog
Analytic Solutions

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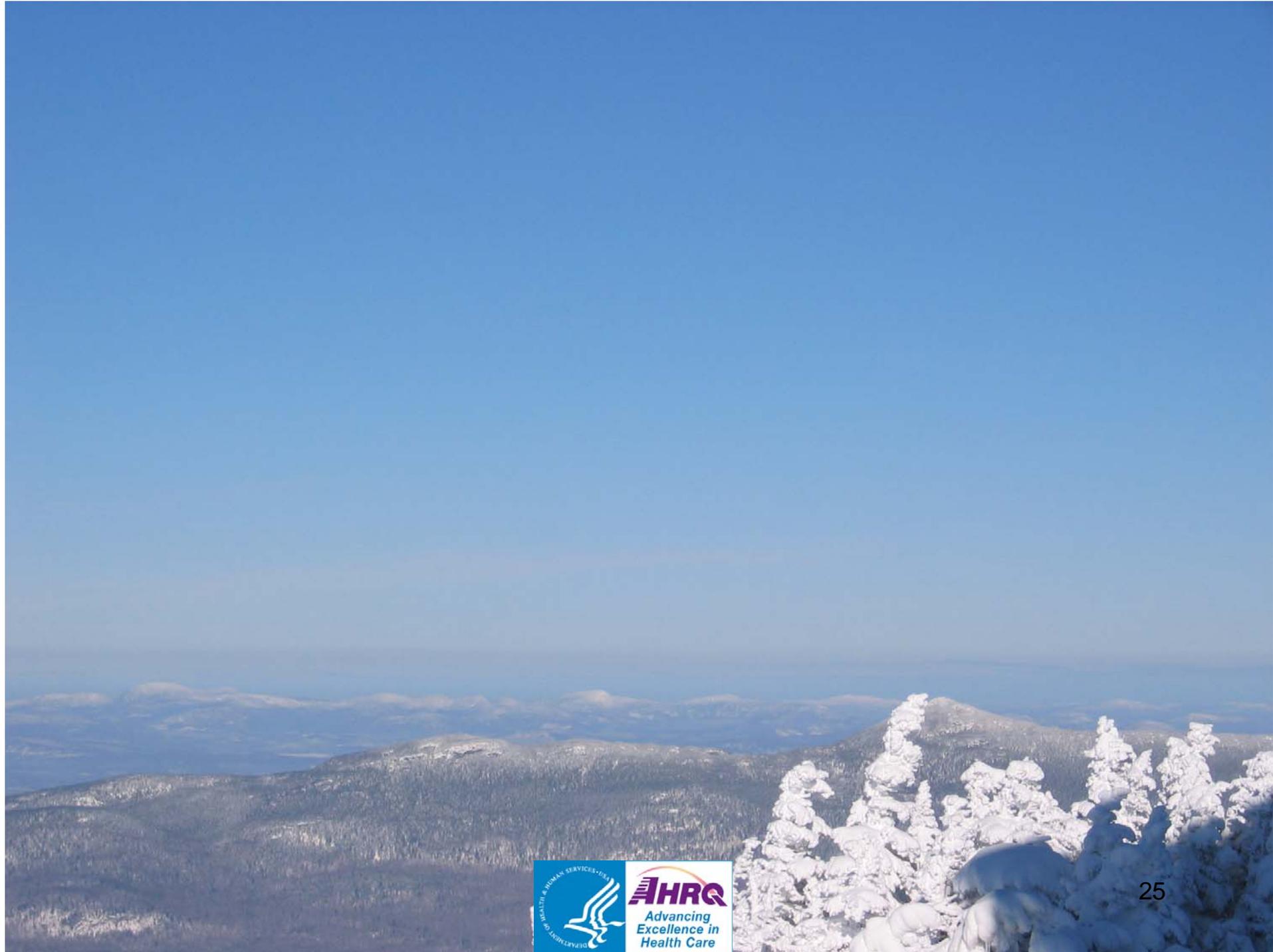
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Citations

- *Delayed Time to Defibrillation After In-Hospital Cardiac Arrest*
  - NEJM Volume 358:9-17   January 3, 2008 Number 1

- Cardiology Analysis
  - Maine Quality Forum with Health Dialog Analytic Solutions 2006 (unpublished)

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