

Leadership, Collaboration, and Change in Health Care

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Leadership, Collaboration, and Change in Health Care

- **Features of great leaders – a question for you**
- What are the characteristics of great leadership?
 - Kouzes and Posner’s “The Leadership Challenge”
 - Emotional intelligence
- Features of effective teams
- Why is great leadership needed in health care?
- Evidence that collaboration has value in health care

A Leadership Exercise: Features of Great vs. Poor Leaders

A Great Leader I Know Name or Initials:	A Poor Leader I Know Name or Initials:

Characteristics of a great leader I know include all **except**:

- 1. Has vision
- 2. Has integrity
- 3. Communicates well
- 4. Offers public recognition for good work
- 5. Behaves in ways consistent with her/his values
- 6. Commands attention
- 7. Celebrates “small wins” en route to completion

Characteristics of a great leader I know include all **except**:

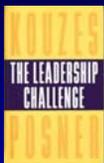
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The Leadership Challenge (Kouzes and Posner)

- **Goal to identify the key dimensions of great leadership**
 - Administer >2,500 surveys, primarily to managers in middle or senior-level positions
 - Likert scale to identify features most associated with perceived great leadership
 - Conduct >300 interviews



From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

The 5 Leadership Commitments

- **Challenging the process**
 - Search out challenging opportunities to change, grow, innovate, and improve
 - Experiment, take risks, and learn from the accompanying mistakes

From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

The 5 Leadership Commitments

- **Inspiring a shared vision**
 - Envision an uplifting and ennobling future
 - Enlist others in a common vision by appealing to their values, interests, hopes, and dreams

From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

The 5 Leadership Commitments

- **Enabling others to act**
 - Foster collaboration by promoting cooperative goals and building trust
 - Strengthen people by giving power away, providing choice, developing competence, assigning critical tasks, and offering visible support

From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

The 5 Leadership Commitments

- **Modeling the way**
 - Set the example by behaving in ways that are consistent with shared values
 - Achieve small wins that promote consistent progress and build commitment

From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

The 5 Leadership Commitments

- **Encouraging the heart**
 - Recognize individual contributions to the success of every project
 - Celebrate team accomplishments regularly

From: Kouzes and Posner. The Leadership Challenge. Jossey Bass, 1995

Leadership Styles

- Commanding – “Just do it!”
- Pacesetter – “Watch me!”
- Democratic – Gets input through participation
- Affinitive – Connects people with one another
- Coaching – Connects with organizational goals
- Visionary – Moves toward shared dream

From: Goleman D, Boyatzis RE, McKee A. Primal Leadership: Learning to Lead with Emotional Intelligence. Harvard Business School Press, 2002

Leadership Styles

- Commanding
 - Pacesetter
 - Democratic
 - Affinitive
 - Coaching
 - Visionary
- } Potentially dissonant styles

After Goleman, Boyatzis, and McKee in "Primal Leadership"

Hazards of Command and Control



Six Leadership Competencies for Health Care Leaders

1. Technical knowledge and skills, e.g.,
 - Operations
 - Finance and accounting
 - Information technology and systems
 - Human resources (including diversity)
 - Strategic planning
 - Policy

ARTICLES

Developing Physician-Leaders:
Key Competencies and Available
Programs

James E. Proctor, MD, PhD

300 The Journal of Health Administration Education Fall 2000

Six Leadership Competencies for Health Care Leaders

2. Knowledge of health care, e.g.
 - Reimbursement strategies
 - Legislation
 - Regulation
 - Quality assessment and management
3. Problem-solving, e.g.,
 - To resolve organizational challenges and manage projects

Six Leadership Competencies for Health Care Leaders

4. Communication, e.g.,
 - In leading groups
 - In negotiation
 - Conflict resolution
5. Commitment to lifelong learning (in the context of a rapidly changing environment and the need for new skills to cope and manage)
6. Emotional intelligence

Key Elements of Clinical Physician Leadership

- **Question:** What are the characteristics of physician leadership?
- **Design:** Observational
- **Methods:** N = 5 focus groups (1 hour each) comprised of IM residents, IM and Pulm/CC attendings, critical care nurses (total N = 24)
- Main focus of discussion was leading a clinical team on rounds

Dine CJ et al. JGME 2011; March; 31-36

Key Elements of Clinical Physician Leadership, cont'd.

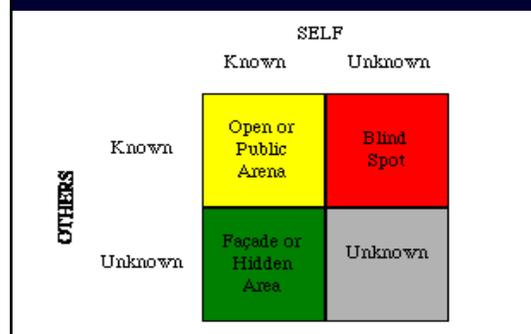
- Main competencies proposed
 - **Teambuilding** (with a participatory style)
 - **Vision** (creating and modeling enthusiasm)
 - **Communication** (articulate the clinical plan and identify any team obstacles to executing)
 - **Emotional intelligence** (humility, integrity, encouraging, respectful)

Dine CJ et al. JGME 2011; March; 31-36

What is Emotional Intelligence (EI)?

- The capacity to **understand** your own and others' emotions, and to **motivate and develop yourself and others** in service of **improved work performance and enhanced organizational effectiveness**
- Essentially, having EI means:
 - Understanding yourself
 - Managing yourself
 - Understanding others
 - Managing your relationship with others

Johari Window



The 18 EI Competencies in 4 Domains

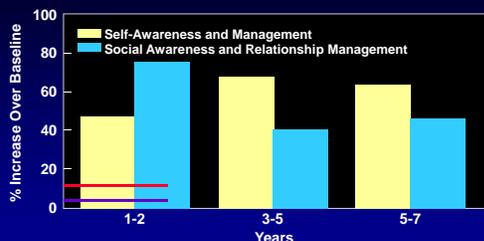
- | Self Awareness | Social Awareness |
|---|--|
| <ul style="list-style-type: none"> • Emotional Self-Awareness • Accurate Self-Assessment • Self-Confidence | <ul style="list-style-type: none"> • Empathy • Organizational Awareness • Service Orientation |
| Self Management | Relationship Management |
| <ul style="list-style-type: none"> • Emotional Self-Control • Transparency • Adaptability • Achievement • Initiative • Optimism | <ul style="list-style-type: none"> • Developing Others • Inspirational Leadership • Influence • Change Catalyst • Conflict Management • Teamwork and Collaboration |

On the Value of Emotional Intelligence in Health Care

"Emotional intelligence and its concomitant skills are the **most essential competencies for leaders to succeed in academic institutions**. The 10 chairs emphatically stated that **this ability was fundamental to their success and its absence the cause of their failures**. They suggested that the absence of emotional intelligence often resulted in the demise of chairs and contributed to the high turnover among colleagues."

Interviews of 10 randomly selected Chairs of Internal Medicine
Lobas JG. AJM 2006; 119: 617- 621.

EI Can Be Learned and Sustained



Weatherhead MBAs were taught EI competencies and retained increments over up to 7 years.

From: Boyatzis R. In: Research Companion to Emotion in Organizations

On Change

- “It’s not the progress I mind, it’s the change I don’t like.”
- Mark Twain

On Change, cont’d.

- “Even if you are on the right track, you’ll get run over if you just sit there.”
- Will Rogers

On Change, cont’d.

- “Change is inevitable..... except from a vending machine.”
- American wisdom

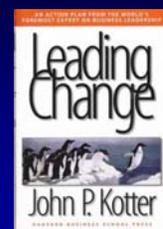
Models of Organizational Change

- Kotter “Eight Stages of Change” model
- Silversin and Kornacki “Amicus” model
- Dissemination of Innovation model
- Organizational Change Manager model

8 Stages of Change (after Kotter)

From: Leading Change, 1996

1. Establishing a sense of urgency
2. Creating the guiding coalition
3. Developing a vision and strategy
4. Communicating the change vision
5. Empowering broad-based action
6. Generating short-term wins
7. Consolidating gains and producing more change
8. Anchoring new changes in the culture



The 5 Leadership Commitments (Kouzes and Posner) and the 8 Stages of Change (Kotter)

- **Challenging the process**
 - **Inspiring a shared vision**
 - **Enabling others to act**
 - **Modeling the way**
 - **Encouraging the heart**
1. Establishing a sense of urgency
 2. Creating the guiding coalition
 3. **Developing a vision and strategy**
 4. Communicating the change vision
 5. **Empowering broad-based action**
 6. **Generating short-term wins**
 7. Consolidating gains and producing more change
 8. Anchoring new changes in the culture

From: Kouzes and Posner, The Leadership Challenge. Jossey Bass, 1995 and Kotter JP. Leading Change. HBS Press 1996

Leadership vs. Management (After Kotter)

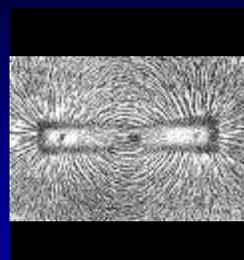
- Different but complementary activities
- Both involve
 - Deciding what needs to be done
 - Creating networks of people to accomplish an agenda
 - Ensuring that the work gets done

Leadership vs. Management (After Kotter)

Managing	Leading
Aim is predictable, orderly results	Aim is to produce change
Involves planning and budgeting	Involves vision and setting direction
Involves organizing and staffing	Involves aligning people
Involves controlling and solving	Involves motivating and inspiring

Kotter JP. What leaders really do. Harvard Business Review

Managing vs. Leading (After Kotter)



Leading
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Leadership, Collaboration, and Change in Health Care

- Features of great leaders – a question for you
- What are the characteristics of great leadership?
 - Kouzes and Posner's "The Leadership Challenge"
 - Emotional intelligence
- **Features of effective teams - a question for you**
- Why is great leadership needed in health care?
- Evidence that collaboration has value in health care

Features of a great team I have experienced include all **except**:

- 1. Full participation
- 2. Diversity of views and talents
- 3. Active listening by team members
- 4. Decision by voting
- 5. Clarity of roles, goals, and timelines by all members
- 6. Clear deliverables and accountability
- 7. Initial disagreement among members

Features of a great team I have experienced include all **except**:

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- 6. Clear deliverables and accountability
- 7. Initial disagreement among members

Characteristics of an Effective Team*

- Has clear purpose
 - Defined and accepted mission; action plan
- Informality
 - Members are comfortable, relaxed
- Participation
 - All members engaged; much discussion

*After Glenn Parker

Characteristics of an Effective Team*

- Listening
 - Use of effective listening techniques, e.g., questioning, paraphrasing, summarizing
- Civilized disagreement
 - Comfortable with disagreement; does not avoid or suppress conflict
- Consensus decision-making
 - Thorough discussion; avoidance of voting

*After Glenn Parker

Characteristics of an Effective Team*

- Open communications
 - Feelings seen as legitimate; few hidden agendas
- Clear roles and work assignments
 - Charter re: roles, goals, responsibilities; even distribution of work
- Shared leadership
 - In addition to formal leader, others show effective leadership behavior

*After Glenn Parker

Characteristics of an Effective Team*

- Attentive to outside relationships
 - Team attends to outside relationships, resources, and credibility
- Style diversity
 - Team has a broad spectrum of group process and task skills
- Self-assessment
 - Team attends to process; how well are we doing?

*After Glenn Parker

Leadership, Collaboration, and Change in Health Care

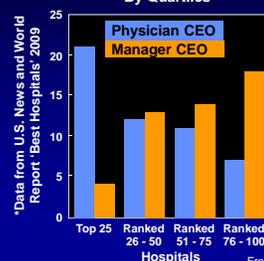
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 - Emotional intelligence
- Features of effective teams
- **Why is great leadership needed in health care?**
- Evidence that collaboration has value in health care
- Management vs. leadership

Why is Great Leadership Needed in Health Care?

- Health care faces challenging problems currently, e.g.,
 - Quality
 - Access
 - Cost
- Physicians are “collaboratively challenged.”
- Great leadership is needed to envision solutions and to harvest teamwork to these goals.

On the Value of Physician Leadership

Proportion of Clinicians and Non-Clinician Managers as CEOs in the Top 100 U.S. Hospitals in the Field of Cancer: By Quartiles*



Having a physician as the CEO is the strongest correlate of top ranking in 2009 USNWR in cancer, heart and heart surgery, and digestive diseases.

Data from U.S. News and World Report "Best Hospitals" 2009. From: Goodall A. Social Sci Med 2011; 73(4): 535 - 539

The Physician Group Practice Demonstration Project

- ACO demonstration project
 - N = 10 physician group practices with 5,000 physicians and 220,000 Medicare beneficiaries
- Achieved quality metrics and savings (\$38.7M in Year 4)
- Critical success factors
 - Integrated, aligned organizations
 - **Dedicated physician leadership**
 - Health information technology
 - Experience with non-Medicare payer initiatives

A Paradox in Health Care

- Outstanding outcomes in health care depend on excellent teamwork and collaboration.
- Also, patients judge their care on the human (not technical) aspects of their care, including how well they perceived their providers as working together as a team.
- **But...**
- Hospitals are traditionally silo-based organizations.
- Features of medical training conspire against collaboration by physicians.

On Physicians and Teamwork

- “Most medicine is delivered by teams of people, with the physician, in theory, the team captain. Yet, we don’t train physicians how to lead teams or be team members. This should begin in medical school.” Atul Gawande, M.D., “Health Care Needs a New Kind of Leader,” HBR April 2010
- “Working in teams does not come easily to physicians who still often see themselves as heroic lone healers. Nonetheless, developing teams is a key leadership function for health care providers of all types.” Tom Lee, M.D., “Turning Doctors into Leaders,” HBR April 2010

On the Importance of Collaboration in Medicine

“Medical care has increasingly become an activity **dependent on team collaboration** and well-organized systems of care. Many current deficiencies of medicine relate to poorly designed systems and inadequate communication and coordination. More than ever, **medicine needs physicians who can collaborate with each other and with other professionals.** It remains uncertain how best to attract such persons to medicine or how best to train medical students so they can work effectively in teams.”

From: Mechanic D. "Physician discontent." JAMA 2003; 290: 941

The Need for Collaboration and Teamwork in Health Care

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Top Drivers of Patient Satisfaction (Press Ganey Associates, 2003*)

1. How well staff worked together to care for you	0.79
2. Overall cheerfulness of a hospital	0.74
3. Response to concerns/complaints made during stay	0.68
4. Amount of attention paid to personal/special needs	0.65
5. Staff sensitivity to the inconvenience of hospitalization	0.65
6. How well nurses kept you informed	0.64
7. Staff's effort to include you in treatment decisions	0.64
8. Nurses' attitudes about your requests	0.64
9. Skill of the nurses	0.63
10. Friendliness of the nurses	0.62

* Based on a mail survey of 48 questions driving "most likely to recommend"

Top Drivers of Patient Satisfaction (Gallup Organization, 1999*)

1. Nurses anticipated your needs	0.64
2. Staff and departments worked together as a team	0.64
3. Staff responded with care and compassion	0.62
4. Staff advised you if there was going to be a delay	0.61
5. Nurses explained about meds, procedures, routines	0.60
6. Nurses responded promptly to pain management	0.60
7. Nurses responded in a reasonable amount of time	0.60

* Telephone survey response to 27 questions that correlate most highly with "overall satisfaction"

Mean Score Correlations to HCAHPS Ratings "Rate Hospital 0 – 10" (Press Ganey Associates, 2010)

1. Staff worked together to care for you	0.901
2. Staff includes me in decisions regarding treatment	0.873
3. Staff responded to my concerns and complaints	0.872
4. Nurses keep me informed	0.871
5. Staff addressed my emotional needs	0.870
6. Attention was paid to my special or personal needs	0.865
7. Staff has concern for my privacy	0.857

HCAHPS Survey Questions Emphasize Teamwork

- N= 22 questions total
- Q14: During the hospital stay, how often did the hospital staff do everything they could to help with your pain?
- Q16: Before giving you any new medicine, how often did the hospital staff tell you what the medicine was for?

HCAHPS Survey Questions Emphasize Teamwork

- Q17: Before giving you any new medicine, how often did the hospital staff describe possible side effects in a way you could understand?
- Q19: During the hospital stay, did hospital staff talk with you about whether you would have the help needed when you left the hospital?
- Others regard physician and nursing communication with patients, responsiveness, pain control, cleanliness, and quiet at night status.

Summary Regarding the Importance of Teamwork in Health Care

- Patients judge us on how effectively we work together in teams in service of their recovery.
- External metrics tied to reimbursement (e.g., HCAHPS) focus importantly on the results of effective teamwork.
- Ample data support the value of teamwork in effecting improved clinical outcomes.

The Need for Collaboration and Teamwork in Health Care

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- **But...**
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- Features of medical training conspire against collaboration by physicians.

Hospitals are Frequently Silo-Based



The Hazard of Silos



The Need for Collaboration and Teamwork in Health Care

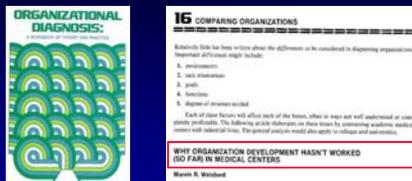
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Can Doctors Collaborate?



Doctors are “collaboratively challenged.”

Marvin Weisbord on OD in Health Care, 1978



"Science-based professional work differs markedly from product-based work. Health professionals learn rigorous scientific discipline as the "content" of their training. The 'process' inculcates a value for autonomous decision-making, personal achievement, and the importance of improving their own performance, rather than that of any institution."

Some Think That Collaboration Will Come to Health Care When....



On Physicians

"Doctors are 'bred' with behavioral traits that do not readily adapt to group life. In our experience, there is much to be said for training physicians in organization development."

Shattuck W. Hartwell, Jr., M.D., Director of Professional Staff Affairs, Cleveland Clinic

Can Doctors Collaborate?, cont'd.

Medical training and practice conspire against physicians' having basic reflexes for collaboration and teamwork.

1. Training favors individual performance.
2. Training is long and hierarchical.
3. "Extrapolated authority" conspires against teamwork.
4. Physicians are deficit-based thinkers.

Stoller JK. Can physicians collaborate? OD Practitioner 2004; 36 (3):19-24.

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Question - Available evidence shows that:

- 1. Teamwork training enhances clinical outcomes in the emergency room.
- 2. Crew resource management training is associated with enhanced surgical mortality.
- 3. Collaborative interpretation of chest CT scans enhances diagnostic accuracy.
- 4. 1 and 3
- 5. All of the above

Question - Available evidence shows that:

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- 4. 1 and 3
- 5. All of the above

The Evidence Supporting the Benefits of Teamwork in Health Care

- Observations by students of systems
- Observational studies (descriptive research)
 - Case reports
 - Observational cohort studies
- Randomized controlled trials
- Your own experience

Teamwork Training Lowers Error Rates in the Emergency Room

- **Question:** Does a course to enhance teamwork impact teamwork and observed error rates in the emergency room?
- **Design:** Prospective observational cohort
- **Methods:** N = 9 ED groups assessed
 - N = 6 underwent a course (Emergency Team Coordination Course [5 modules, 8 hours]), N = 684 physicians, nurses, and technicians
 - N = 3 usual practice without the course, N = 374



Morey JC et al. Health Services Research 2002; 37: 1553 - 1581

Teamwork Training Lowers Error Rates in the Emergency Room

- Assess team behavior, ED performance (observed errors in care delivery), and attitudes/opinions regarding team function at baseline (May 1998) and 5 (October) and 10 months (March 1999) later
- Treatment and control groups similar at baseline regarding hospital type, ED volume
- After the intervention (compared to controls), ratings improved regarding:
 - Teamwork (based on behavioral ratings by external observers), p = 0.002

Morey JC et al. Health Services Research 2002; 37: 1553 - 1581

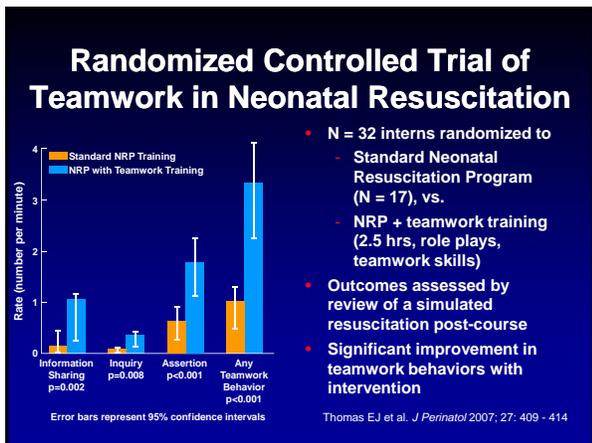
Teamwork Training Lowers Error Rates in the Emergency Room

- After the intervention (compared to controls), ratings improved regarding, cont'd.:
 - ED performance (fewer observed errors, which decreased from 31% to 4% vs. 17% to 12% [control], p = 0.039)
 - Staff attitudes toward teamwork, p = 0.047
 - Staff perceptions of institutional support, p = 0.040
- **Conclusion:** Teamwork training using this curriculum (5 modules of didactic sessions, discussion, vignettes, etc.) can enhance specific teamwork behaviors and was associated with fewer clinical errors.

Morey JC et al. Health Services Research 2002; 37: 1553 - 1581

Randomized Controlled Trials of Teamwork in Healthcare

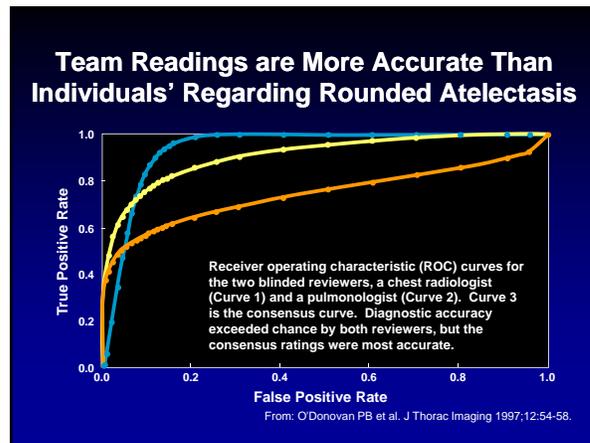
Author (Pub)	Intervention	N	Outcomes
Nielsen et al. (Ob Gyn 2007)	Teamwork curriculum (MedTeams, based on crew resource management)	7 hospitals with curriculum, 8 without	<ul style="list-style-type: none"> • Adverse Outcome Index (composite maternal and fetal adverse outcomes) of actual deliveries (N = 28,536 deliveries) • No observed difference (8.3% [intervention] vs. 7.2% control, p = 0.30)
Thomas et al. (J Perinatology 2010)	Teamwork training added to standard Neonatal Resuscitation Curriculum vs. Standard Curriculum alone	17 interns (intervention) vs. 15 controls	<ul style="list-style-type: none"> • Observer ratings of a clinical simulation of a neonatal resuscitation • Higher teamwork behaviors (inquiry, assertive in critical moments) in intervention, p<0.001



Team Readings are More Accurate Than Individuals' Regarding Rounded Atelectasis

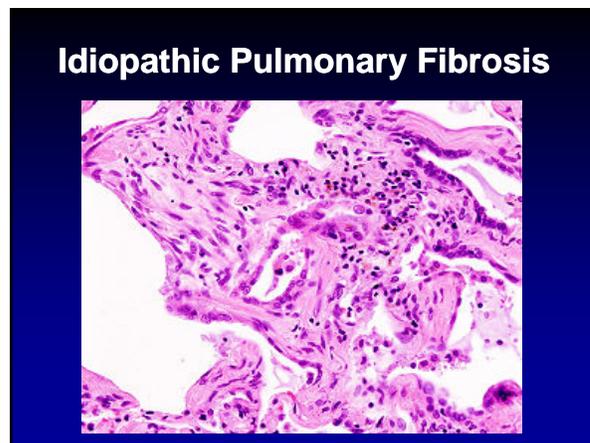
- Independent, blinded review of 36 patients' chest CT scans selected to have demonstrated rounded atelectasis (RA) vs. lung cancer
- Each reviewer independently rated the probability of RA.
- Both reviewers then convened and rated the same films regarding the probability of RA (team rating).
- Conclusion:** The consensus rating (team) was better than either individual rating (area under ROC curve = 0.95 vs. 0.91 and 0.74 for individual readers).

From: O'Donovan PB et al. *J Thorac Imaging* 1997;12:54-58.



A Leadership Exercise: Features of Great vs. Poor Leaders

A Great Leader I Know	A Poor Leader I Know
Name or Initials:	Name or Initials:



Collaboration Between Pulmonologist, Radiologist, and Pathologist Enhances Diagnosis of Idiopathic Interstitial Pneumonia

Idiopathic Interstitial Pneumonia
What Is the Effect of a Multidisciplinary Approach to Diagnosis?

Kevin R. Flaherty, Talmadge E. King, Jr., Ganesh Raghu, Joseph P. Lynch III, Thomas V. Colby, William D. Travis, Barry H. Gross, Ella A. Kazerooni, Galen B. Toews, Qi Long, Susan Murray, Vilsha N. Lama, Steven E. Gay, and Fernando J. Martinez

- Question:** Does increasing the level of interaction/teamwork among pulmonologists, radiologists, and pathologists enhance concordance and confidence in the diagnosis of interstitial lung disease?
- Design:** Observational

Flaherty KR et al. Am J Respir Crit Care Med 2004; 170: 904 - 910

Collaboration Between Pulmonologist, Radiologist, and Pathologist Enhances Diagnosis of Idiopathic Interstitial Pneumonia, cont'd.

- Methods:**
 - N = 58 patients with surgical lung biopsies for interstitial lung disease (consensus pathologic diagnosis of IPF in 30, NSIP in 15)
 - 3 clinicians, 2 radiologists, 2 pathologists (Colby and Travis) met in stepwise fashion

Flaherty KR et al. Am J Respir Crit Care Med 2004; 170: 904 - 910

Collaboration Between Pulmonologist, Radiologist, and Pathologist Enhances Diagnosis of Idiopathic Interstitial Pneumonia, cont'd.

- Step 1 – Clinicians and radiologists independently review CTs without clinical or pathologic information; each renders own diagnosis and degree of confidence
- Step 2- Clinicians and radiologists receive clinical information and independently record their diagnosis and level of confidence
- Step 3 – Clinicians and radiologists discuss among themselves and then record their individual diagnosis and degree of confidence

Flaherty KR et al. A J Respir Crit Care Med 2004; 170: 904 - 910

Collaboration Between Pulmonologist, Radiologist, and pathologist Enhances Diagnosis of Idiopathic Interstitial Pneumonia, cont'd.

- Step 4 – Pathologists enter room and offer pathologic information (functioning as a single observer); clinicians and radiologists record diagnosis and level of confidence
- Step 5 – Each pathologist discusses his own interpretation; clinicians and radiologists record their own diagnosis and level of confidence

Flaherty KR et al. A J Respir Crit Care Med 2004; 170: 904 - 910

Collaboration Between Pulmonologist, Radiologist, and Pathologist Enhances Diagnosis of Idiopathic Interstitial Pneumonia, cont'd.

TABLE 5. AGREEMENT OF CLINICIANS AND RADIOLOGISTS WITH PATHOLOGIST IMPRESSION

Step	Clinicians			Radiologists	
	A [κ (95% CI)]	B [κ (95% CI)]	C [κ (95% CI)]	A [κ (95% CI)]	B [κ (95% CI)]
1	0.22 (0.07, 0.36)	0.22 (0.09, 0.36)	0.38 (0.23, 0.54)	0.09 (0.0, 0.21)	0.14 (0.02, 0.27)
2	0.34 (0.20, 0.48)	0.20 (0.05, 0.34)	0.39 (0.24, 0.54)	0.12 (0.0, 0.26)	0.17 (0.04, 0.30)
3	0.34 (0.20, 0.48)	0.32 (0.17, 0.47)	0.39 (0.25, 0.54)	0.13 (0.0, 0.26)	0.19 (0.05, 0.32)
4	0.76 (0.63, 0.88)	0.79 (0.67, 0.91)	0.74 (0.61, 0.88)	0.81 (0.69, 0.94)	0.92 (0.84, 1.00)
5	0.89 (0.80, 0.99)	0.78 (0.65, 0.91)	0.89 (0.79, 0.99)	0.87 (0.76, 0.97)	0.92 (0.84, 1.00)

The consensus diagnosis of the pathologists without clinical or radiographic information (Table 2) was used for Steps 1–3. The consensus diagnosis of the pathologists after hearing the clinical/radiographic information and after a final group discussion (Table 1) was used for Steps 4 and 5, respectively.

- Level of agreement among clinicians and radiologists with the pathologists increased with stepwise addition of information and discussion.
- Multidisciplinary teamwork enhances the diagnosis of interstitial lung disease.

Flaherty KR et al. Am J Respir Crit Care Med 2004; 170: 904 - 910

Process Affects Outcome in Critical Care

- Assess expected vs. actual outcomes in 13 hospital ICUs
- Then compared process in Hospital 1 where observed hospital survival significantly exceeded APACHE II prediction (mortality ratio 0.59) vs. Hospital 13 where survival fell significantly below prediction (mortality ratio 1.58)
- Features of Hospital 1: "carefully designed protocols," "educational programs for staff nurses and for charge nurse as manager," "excellent communication between physicians and nursing was ongoing"
- Features of Hospital 13: "admitting physicians and unit nursing staff communicated poorly," "no policy for routine discussion of patient treatment"

Knaus WA et al. Ann Intern Med 1986; 104: 410 - 418

Teamwork Enhances Outcomes in the Intensive Care Unit

- ICU leaders committed to create an environment “supportive of practice improvement” in the Shock Trauma Respiratory ICU (STRICU) at LDS Hospital
 - Implemented methods to foster cooperation
 - Develop a shared purpose
 - Create an open, safe environment
 - Include all who share in the common purpose and encourage diverse views
 - Learn to negotiate agreement
 - Insist on fairness and equity in applying rules

Clemmer TP et al. Cooperation: The foundation of improvement. Ann Intern Med 1998; 128: 1004 – 1009

Teamwork Enhances Outcomes in the Intensive Care Unit, cont'd.

- **Develop a shared purpose**
 - *Example:* Unit medical director and nurse manager developed workshops for nurses and doctors to improve unit performance and cultivate supportive working relationships.
- **Create an open, safe environment**
 - *Example:* Unit medical director and nurse manager modeled cooperation in their interactions and encouraged same among others.

Clemmer TP et al. Cooperation: The foundation of improvement. Ann Intern Med 1998; 128: 1004 – 1009

Teamwork Enhances Outcomes in the Intensive Care Unit, cont'd.

- **Include those who share in the common purpose and encourage diverse viewpoints**
 - *Example:* Physicians invite other professionals to express their concerns, ideas, and opinions individually.
- **Learn to negotiate agreement**
 - *Example:* Offer formal sessions on negotiation; physicians who disagree with others are expected to offer alternative solutions.

Clemmer TP et al. Cooperation: The foundation of improvement. Ann Intern Med 1998; 128: 1004 – 1009

Teamwork Enhances Outcomes in the Intensive Care Unit, cont'd.

- **Insist on fairness and equity in applying the rules**
 - *Example:* In implementing protocols, everyone is asked for their views about the protocol; a time window for comment is established during which everyone's comments are expected with the understanding that non-response implies consent.

Clemmer TP et al. Cooperation: The foundation of improvement. Ann Intern Med 1998; 128: 1004 – 1009

Teamwork Enhances Outcomes in the Intensive Care Unit, cont'd.

Impact of this intervention was that over a 4-year interval during which an ICU committed to establishing a culture of cooperation, **costs of ICU care declined by up to 30%**, resulting in an overall 19% reduction in total hospital costs.

Clemmer TP et al. Cooperation: The foundation of improvement. Ann Intern Med 1998; 128: 1004 – 1009

A Summary of Evidence that Teamwork Enhances Function in Medicine

- In a study of 16 different surgical teams newly learning minimally invasive cardiac surgery, attention to the elements of teamwork by the surgeon was associated with a steeper learning curve and with substantially shorter procedure times after 40 cases.
 - Mean procedure times for the hospital with the second steepest learning curve after 40 cases were 143 minutes vs. 305 for the second slowest curve.

Pisano GP et al. Management Science 2001; ; 47: 752 – 768.

Lessons from Learning Minimally Invasive Cardiac Surgery

- **Study question:** What are the features of surgical teams that achieve low procedure time for a new surgical technique (minimally invasive cardiac surgery)?
- **Design:** Observational
- **Methods:** Evaluate total procedure time to complete the surgery among 16 hospitals (660 patients) which were similarly trained by the equipment manufacturer
- **Assess features of those which achieved low procedure times**

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Lessons from Learning Minimally Invasive Cardiac Surgery, cont'd.

- Of 16 hospitals evaluated, 9 were academic medical centers and 7 community hospitals (all non-profit)
- Mean cardiac cases 1400/year (range 400 – 3500/year)
 - Mean minimally invasive cases = 40 (range 11 – 95)
- Multivariate model with
 - Dependent variable = total procedure time (“skin to skin” time)
 - Independent variables
 - Type of procedure (e.g., CABG, valve)
 - Number of grafts in CABG
 - Higgins Score for OHS outcomes
 - Cumulative minimally invasive cases to date

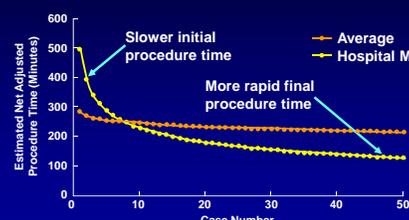
Lessons from Learning Minimally Invasive Cardiac Surgery, cont'd.

- **Model shows that**
 - Procedure times fall with experience
 - Substantial differences in the slope and intercept of the curves were observed, i.e., the “learning curve” differed greatly and later procedure times varied (sample average of 220 minutes, with the hospital with the second steepest learning curve at 143 minutes for the 40th case vs. 305 minutes for the slowest learner).
 - Hospitals with lower final procedure times tended to have longer procedure times for first few cases.

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Procedure Times for a High-Performing Surgical Team vs. All Others

Estimated Net Adjusted Procedure Times: Hospital M vs. Average



Hospital M demonstrated the second steepest initial learning curve of all 16.

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Comparison of Surgical Team Practices in a Hospital with Low Procedure Time vs. Others

Team with Second Shortest Procedure Times	Team with Second Longest Procedure Times
Community hospital (1200 operations/year)	Academic medical center
Surgeon hand-picked team to attend training	Team picked by availability and willingness to go to training (on a weekend)
Surgeon explicitly encouraged teamwork as an important success factor	Members of team see themselves as functioning independently

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Comparison of Surgical Team Practices in a Hospital with Short Procedure Time vs. Others

Team with Second Shortest Procedure Times	Team with Second Longest Procedure Times
High cross-department communication regarding the procedure and outcomes (e.g., talk with cardiologists)	No attempt to introduce the technique to other stakeholders
Team meets before the case to discuss (first 10) and after the case to debrief (first 20)	No meetings of team before or after cases

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Comparison of Surgical Team Practices in a Hospital with Short Procedure Time vs. Others

Team with Second Shortest Procedure Times	Team with Second Longest Procedure Times
High communication among surgical team (e.g., perfusionists with nurses, etc.)	No attempt to assure or encourage communication among team members
Surgeon mandated same team for first 15 cases before any new members joined	No attention to this (only 3 of the 4 individuals who attended training did the first case)
New members were required to watch 4 cases and be proctored in 2 more	Team composition varied for first 7 cases

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Conclusions from this Study

- The learning curve for surgical teams, even when identically trained in a technique, varies widely, with some teams achieving much lower procedure times than others.
- Differences in the high vs. low performers seem to relate to the emphasis on team-building and teamwork of the surgical team.

Pisano GP et al. Management Science 2001; 47: 752 – 768.

Team Training is Associated with Decreased Surgical Mortality

- **Question:** Is there an association between a team training program and surgical mortality?
- **Design:** Observational cohort
- **Methods:** Medical Team Training Program implemented at VA in 2006
 - Day-long on-site crew resource management program
 - 4 quarterly follow-up calls to support the team implementation



Neily J et al. JAMA 2010; 15: 1693 - 1700

Team Training is Associated with Decreased Surgical Mortality, cont'd.

- Elements of the VHA Medical Team Training Program (crew resource management)
 - Trained to work as a team
 - Challenge each other on safety risk
 - Checklist-guided pre-operative briefings
 - Implement communication strategies, e.g.,
 - Recognizing red flags
 - Rules of conduct for communicating
 - Stepping back to assess situations
 - Hand-off communication

Neily J et al. JAMA 2010; 15: 1693 - 1700

Team Training is Associated with Decreased Surgical Mortality, cont'd.

- Assess surgical mortality (within 30 days) using VASQIP data base for hospitals after vs. before the team training program compared with hospitals not undergoing training
- Multivariate analysis using a propensity score for receiving the team program
- Of 108 hospitals assessed, 74 underwent team training and were analyzed
- **Training was associated with decreased mortality (18% [p=0.01] vs. 7% decrease)**

Neily J et al. JAMA 2010; 15: 1693 - 1700

Team Training is Associated with Decreased Surgical Mortality, cont'd.



- A dose-response relationship was observed, such that the more quarters in which hospitals were called, the lower the surgical mortality rate.
- For every additional quarter, mortality fell by 0.6/1000 procedures (p=0.001)

Neily J et al. JAMA 2010; 15: 1693 - 1700

Conclusions from this Study

- Use of a team training program based on crew resource management theory was associated with decreased surgical mortality.
- A dose-response effect was evident in that longer duration of training was associated with lower mortality.

Neily J et al. JAMA 2010; 15: 1693 - 1700

Leadership and Change: Implications for Each of Us

- Great leadership requires specific competencies that are different from those that make us great clinicians and/or investigators.
- Knowing these competencies and assessing oneself (or getting 360° feedback data) is the first step in developing these competencies.
- Great leadership competencies can be developed and sustained.



Conclusions

- Excellent teamwork is really important in health care.
- Effective teams have specific characteristics that can be developed.
- Because physicians can be “collaboratively challenged” by virtue of the processes of selection and traditional training, leadership development and teamwork training for physicians is important.



Conclusions, cont'd.

- Leadership is about leading change.
- The change process can be modeled and successfully managed.
- Great leadership is critically needed in health care and you have an opportunity, through interest and training, to meet the leadership challenge.



Every life deserves world class care.