Role modeling and coaching leading to professional growth in medicine

Dr. Scott Wright
JHUSOM
February 10, 2012
Financial Disclosures

• None
Objectives

• To convince you that role modeling and coaching are teaching methods that need to be amplified in medical education.

• To make the case that the goal for medical education should be excellence rather than competence.
A metaphor for medical education
Individuals that want to become physicians

Highly skilled, professional, humanistic physicians
How good is medical education in this country?

A comment over lunch

MS: “We have the best medical education system in the world.”

SW: “How do you know?”

MS: “Because people travel from all over the world to train here.”
### Selected countries' performance in mathematics, reading, and science, 2009

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Reading</th>
<th>Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai-China 600</td>
<td>Shanghai-China 556</td>
<td>Shanghai-China 556</td>
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<td>Hong Kong-China 555</td>
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<td>Belgium 515</td>
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<tr>
<td>Australia 514</td>
<td>Poland 500</td>
<td>Macao-China 499</td>
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<td>Iceland 500</td>
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<td>France 494</td>
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<td>France 497</td>
<td>France 496</td>
<td>Iceland 489</td>
</tr>
<tr>
<td>Slovak Republic 497</td>
<td>Chinese Taipei 495</td>
<td>Macao-China 487</td>
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<tr>
<td>Austria 496</td>
<td>Denmark 495</td>
<td>Italy 486</td>
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</tr>
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<td>Sweden 494</td>
<td>Hungary 494</td>
<td>Slovenia 483</td>
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<tr>
<td>Czech Republic 493</td>
<td>Portugal 489</td>
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<td>United Kingdom 492</td>
<td>Macao-China 487</td>
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<td>Hungary 490</td>
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<td>Portugal 483</td>
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<tr>
<td>Luxembourg 489</td>
<td>Iceland 487</td>
<td>Spain 481</td>
</tr>
</tbody>
</table>

- **United States**: Significantly above the OECD average
- **United States**: OECD average
- **United States**: Significantly below the OECD average
2011 International Collegiate Programming Contest (sponsored by IBM)

105 University teams competed

- Only 1 American team finished in the top 12.

- The other universities in the top 12 were from the following countries:

- China (2), Russia (5), Germany, Ukraine, Poland, and Canada
Why Are American Students Outperformed?

- Parental expectations
- Investment in education
- Educational innovation
Opportunities to Improve Medical Education

- Role models
- Coaches
- Professional growth
Role Models in Medicine
Role Model (definition):

“A person considered as a standard of excellence to be imitated.”
Observational Learning / Learning from Models

Imitation as an Instinct

- Early psychologists (Morgan, 1896; Baldwin, 1906) learned that people and animals have an innate propensity to imitate behaviors they see.
Meltzoff and Moore (1977) found a reliable tendency for infants (12-21 days old) to imitate a specific behavior they had just seen.

Learning through observation is an effective and efficient method to learn almost anything.
The Role of Models in Professional Socialization

Objective: To describe how medical students relate to their teachers

Methods: Longitudinal study of 2 medical school classes (early 1970’s)

Results:
- Students are exposed to many varieties of models.

- Most students choose selectively characteristics from several models.

- Three patterns of modeling emerged:

  1. *Active identification*: classic modeling, learners move towards modes

  2. *Active rejection*: learners move further away from models

  3. *Inactive orientation*: no change in the student
Role Modeling in medical education
Reuler and Nardone, *WJM* 1994

**Future directions for role modeling in medicine:**

1. Figure out who the role models are and increase the opportunities for learners to interact with these people.

2. Negative role models shouldn’t be allowed to interact with learners.

3. Help housestaff to become role models (thought to be facilitated by creating a less stressful environment).

4. Hire and recruit faculty that are more representative of the learners / student body.
Studies related to role modeling by our group
Examsining what residents look for in their role models
Wright, Acad Med 1996

The impact of role models on medical students
Wright, Wong, Newill JGIM 1997

Objectives:

• To identify the specific attributes felt to be most important to students and house officers in the identification of role models.
Select Results

• For 35% of the students, at least one of their role models was a resident.

• 61% stated that the relationship with their role model resulted in personal growth and development.

• 57% acknowledged that their role model was influential in their choice of residency.
Factors most important in selecting role model

\((1 = \text{most important}, \ 6 = \text{least important})\)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Median</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personality</td>
<td>1</td>
<td>1.7</td>
</tr>
<tr>
<td>Clinical skills</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Teaching ability</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td>Area of specialty</td>
<td>4</td>
<td>4.3</td>
</tr>
<tr>
<td>Research &amp; publications</td>
<td>5</td>
<td>5.1</td>
</tr>
<tr>
<td>Position / Academic rank</td>
<td>5</td>
<td>5.2</td>
</tr>
</tbody>
</table>
Specific attributes of role model physicians

• Personal qualities:
  - integrity and objectivity
  - sense of humor

• Clinical skills:
  - interactions with patients and families
  - awareness of strengths and limitations

• Teaching skills:
  - ability to make difficult topics understood
  - patience
Attributes of excellent role models: A case-control study

SM Wright, DE Kern, KB Kolodner, DM Howard, FL Brancati  NEJM 1998

Objective: To identify the attributes which set the excellent attending physician role models apart from their colleagues.

Methods:

Design: Case-control study

Setting: 4 North American teaching hospitals

Participants: 342 medicine attendings

Measurement: Self-administered questionnaire

Outcome: Excellent role models vs. controls

Analysis: Contingency tables, logistic regression
Five factors independently associated with being named as a role model

<table>
<thead>
<tr>
<th>Variables</th>
<th>Adjusted Odds Ratio* (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spending ≥25h/wk with team when attending</td>
<td>2.5 (1.2-5.4)</td>
</tr>
<tr>
<td>Former chief resident</td>
<td>2.1 (1.1-4.0)</td>
</tr>
<tr>
<td>Emphasize psychosocial aspects</td>
<td>2.3 (1.2-4.4)</td>
</tr>
<tr>
<td>Stress Dr.-Pt relationship</td>
<td>2.6 (1.1-6.4)</td>
</tr>
<tr>
<td>Spends ≥25% time teaching</td>
<td>5.1 (1.8-9.9)</td>
</tr>
</tbody>
</table>

*Adjusted for assigned teaching responsibilities and all other variables in the model
Select factors not associated with being named as a role model

• Gender
• Rank
• Full vs. part-time
• Research
• Clinical time
• ‘Learner-centeredness’
• Preparation for teaching
• Donuts
Conclusions

• Many of the attributes associated with being identified as a role model are modifiable behaviors or acquirable skills.

• These results may help programs foster excellence in role modeling.
Objective: To examine and better understand role modeling by drawing on the insights and opinions of respected physician role models.

Methods: Qualitative study

Setting: 2 large teaching hospitals in Baltimore

Sampling: Purposive, 29 of the 30 most highly regarded role models within the Department of Medicine as judged by the medical house officers

Data: Audiotaped in-depth interviews
Conceptual Model

- Higher order clinical skills
- Teaching Skills
- Personal qualities
- Role Modeling Consciousness
- A threshold level of clinical skill
- Barriers
Objective: To explore the association between being identified as clinically excellent by colleagues and being identified as a role model by residents.

Design: 2 parallel web-based surveys

Sample: All JHBMC DoM housestaff and all clinically active JHBMC DoM faculty

Data collection: Housestaff were asked to identify 3-5 DoM faculty they considered to be role models. Faculty were asked to identify 3-5 clinically excellent colleagues.

Data Analysis: Pearson correlations and odds ratios with 95% CIs were used to assess the relationship between the 2 variables.
• Moderately high correlation of being named clinically excellent by faculty colleagues and being named as a role model by trainees

(Pearson = 0.67, P < 0.0001)
Many of the clinically excellent faculty physicians are the inspiring role models for the medical trainees.

- Role Models: “Learners Win”
- Clinically Excellent Faculty: “Patients Win”

Role Models & Clinically Excellent Faculty: “Win – Win”
Realizations about role models

- Observe others closely, there is much to be learned.
- Understand that people are watching you!
- Be more transparent / explicit about role modeling.
Coaching
There are many books that describe coaching philosophies and approaches. 

- Lombardi
- Wooden
- Jackson
- La Russa
- Why do I coach?
- Why do I coach the way I do?
- What does it feel like to be coached by me?
- How do I define success?
Coaches must be role models.

“Modeling is the most important part of coaching. If you cannot model civil, empathic, reflective, effective communication, why should you expect your players to?”
InsideOut Coaching Lesson #2

1\textsuperscript{st}: Observe players carefully

2\textsuperscript{nd}: VCR (Adopted from Teens Who Hurt):

- Validate: “I can see why you might think that.”

- Challenge: Suggest an alternative way of behaving / looking at the issue

- Request: “Please try this out and see what happens.”
If I coach with hostility – my players learn to be hostile.
If I coach with ridicule – my players learn to disengage.
If I coach with shame – my players learn to be ashamed.
If I coach with sarcasm – my players learn to hide.
If I coach with love – my players learn how to be loved.
If I coach with tolerance – my players learn to be patient.
If I coach with encouragement – my players learn to encourage.
If I coach with empathy – my players learn to express their feelings.
If I coach with compassion – my players learn to care about others.
If I coach with praise – my players learn to value themselves.
If I coach with fairness – my players learn justice.
If I coach with affirmation – my players discover their full potential.
If I coach with acceptance and friendship – my players learn how to find and give love in their relationships.

Adopted from: Children Learn What They Live
By Dorothy Law Nolte, Ph.D.
Coaching in Medicine
ANNALS OF MEDICINE

PERSONAL BEST

Top athletes and singers have coaches. Should you?
by Atul Gawande
OCTOBER 3, 2011

I’ve been a surgeon for eight years. For the past couple of them, my performance in the operating room has reached a plateau. I’d like to think it’s a good thing—I’ve arrived at my professional peak. But mainly it seems as if I’ve just stopped getting better.

During the first two or three years in practice, your skills seem to improve almost daily. It’s not about hand-eye coordination—you have that down halfway through your residency. As one of my professors once explained, doing surgery is no more physically difficult than writing in cursive. Surgical mastery is about familiarity and judgment. You learn the problems that can occur during a particular procedure or with
Dr Wright was excellent in so many ways, it is hard to no where to comment. His bedside rounding style is especially effective. I like that he picks something to focus on, particularly one part of the physical exam that we explore thoroughly with each patient encounter. He is like a great coach, knowing how and when to teach, guide, and promote growth of each and every team member. I am lucky I to have had the opportunity to work with him and will take many of the experiences of these two weeks with me.
How residents perceive the quality of supervision by attendings in clinical settings

Busari, Med Ed, 2005

• Survey of Peds residents

Results:
• Rated overall supervision positively.
• “Coaches me on my clinical skills (interview, diagnosis, procedural…”) was one of the lowest rated supervisory roles.
The skills of coaching include the ability to:

- Present information specifically and clearly
- Listen interactively
- Assess strengths and developmental needs of team members
- Use praise to reinforce + behaviors
- Serve as RM for norms and values of organization
- Encourage creativity in seeking solutions to problems.
Personal Growth in Medicine
What is personal growth?

- Increased awareness and understanding of self
- Acting in accordance with one’s values and goals

- Self-actualization
  - reaching one’s full potential
  - continual development in the face of challenges

- Key component of psychological well-being
Distress among medical trainees

• Training to be a physician is physically and emotionally stressful
• Greater focus on cognitive and technical skills in training than on personal development
• Financial burden / accruing debt
• Informal curriculum promotes detachment, early independence, competitiveness
Life changes can be scored for the degree of experienced severity (Holmes and Rahe Social Readjustment Scale)

<table>
<thead>
<tr>
<th>Life Event</th>
<th>Assigned Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death of Spouse</td>
<td>100</td>
</tr>
<tr>
<td>Divorce</td>
<td>73</td>
</tr>
<tr>
<td>Marriage</td>
<td>50</td>
</tr>
<tr>
<td>Being Fired</td>
<td>47</td>
</tr>
<tr>
<td>Major Business Readjustment</td>
<td>39</td>
</tr>
<tr>
<td>Trouble with Boss</td>
<td>23</td>
</tr>
<tr>
<td><strong>Medical school and residency</strong></td>
<td><strong>88</strong></td>
</tr>
</tbody>
</table>
Individual characteristics affecting response to stressful events


- Physical and psychological state
- Personality factors
- Extent to which individual feels locked in
- Extent and quality of social support
- Outcome of past similar experiences
- Extent of advanced warning of the stressor
Studies related to personal growth by our group
Personal growth in medical faculty


• PG outcomes noted
  – changes in values, goals, and direction
  – healthier behaviors
  – improved connectedness with others
  – increased productivity, creativity
Objectives: To explore processes related to personal growth during Internal Medicine internship training.

Methods: Prospective, one year qualitative study involving 32 interns at 9 residency training programs. Interns responded by email to open-ended prompts every 8 weeks during internship. Qualitative analysis methods utilized.
### Characteristics of respondents, N=32

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age (range) yr</td>
<td>29 (25-37)</td>
</tr>
<tr>
<td>Male sex, n (%)</td>
<td>14 (44%)</td>
</tr>
<tr>
<td>Non-white, n (%)</td>
<td>15 (47%)</td>
</tr>
<tr>
<td>Married, n (%)</td>
<td>14 (44%)</td>
</tr>
<tr>
<td>Percent with children</td>
<td>7 (22%)</td>
</tr>
</tbody>
</table>
Triggers for Personal Growth

• Intense experiences which evoke strong emotions and/or challenge values
  – Caring for critically ill and dying patients
  – Receiving feedback
  – Witnessing unprofessional behavior
  – Experiencing personal problems
  – Dealing with increased responsibility
Facilitators of personal growth

• Supportive relationships
• Reflection
• Commitment to core values
Barriers to personal growth

• Fatigue
• Lack of personal time
• Sense of being overwhelmed at work
Conclusions

- Powerful experiences and stressful situations provide potential triggers for personal growth

- Reflection and supportive relationships are important facilitators of personal growth
Personal Growth and its Correlates During Residency Training

Scott Wright, Rachel B. Levine, Brent Beasley, Paul Haidet, Todd Gress, Suzanne Caccamese, Donald Brady, Ajay Marwaha, David Kern

Medical Education 2006; 40: 737-745.
Objectives

• Develop a measurement tool for personal growth

• Identify factors associated with personal growth during residency training
Methods:

• Cross-sectional study of 359 internal medicine house officers from 7 internal medicine residency programs in 6 states.

Analysis:

• Factor analysis was used to identifying variables that were included in a new ‘personal growth scale’.

• Analyses were performed to compare the responses of house officers that scored ‘high’ versus ‘low’ relative to the median on the ‘personal growth scale’.
Results

Response Rate and Characteristics of Respondents

Surveys were completed by 281 of the 359 targeted residents (80%).

**Age, mean (SD)**
- 29.9 (4.2)

**Female, %**
- 43.2

**Born in U.S.A., %**
- 61.9

**Caucasian, %**
- 53.7

**Married, %**
- 41.8

**Indebtedness of >$50K, %**
- 50.5

**Interns, %**
- 46.7
Personal Growth Outcomes

Areas where house officers believed that they had most improved during residency training:

- understanding themselves better
- more self-confident
- increased clarity about their goals and values
Personal Growth Scale

• Possible score 9-45
• Median score 32, SD 4.7
• Correlation with Ryff Personal Growth scale 0.39
Characteristics independently associated with high scores on the personal growth scale

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional isolation</td>
<td>0.42</td>
<td>0.21-0.85</td>
</tr>
<tr>
<td>Negative experiences perceived as powerful experiences</td>
<td>0.39</td>
<td>0.19-0.91</td>
</tr>
<tr>
<td>Male</td>
<td>2.77</td>
<td>1.44-5.20</td>
</tr>
<tr>
<td>Recognize reflection as important</td>
<td>2.56</td>
<td>1.43-4.55</td>
</tr>
<tr>
<td>Non-Caucasian</td>
<td>2.21</td>
<td>1.25-3.90</td>
</tr>
<tr>
<td>Belief that PG has been supported during training</td>
<td>2.15</td>
<td>1.12-4.10</td>
</tr>
<tr>
<td>Support from PD</td>
<td>2.13</td>
<td>1.15-3.92</td>
</tr>
</tbody>
</table>
Insights

• Disparate amounts of personal growth occur among residents

• Higher personal growth scores associated with:
  – residents’ desire to develop personally and professionally
  – residents’ belief that reflection is important
  – curricular support
Objective: To understand which experiences in medical school are most powerful and meaningful to our students.

Design: Annual web-based survey of JHUSOM graduating students

Data collection: Iterative process involving multiple stakeholders was used to arrive at 35 experiences
Below is a list of events that you may have encountered during medical school. Please indicate whether you experienced these events and the impact it had on you if you did.

<table>
<thead>
<tr>
<th>Experienced?</th>
<th>No</th>
<th>Yes, but it had no impact</th>
<th>Yes, and it had little impact</th>
<th>Yes, and it had some impact</th>
<th>Yes, and it had a lot of impact</th>
<th>Yes, and it had tremendous impact</th>
</tr>
</thead>
</table>

- **‘No impact’**
- **‘Moderate impact’**
- **‘High impact’**
## Population characteristics (n=181)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, median</td>
<td>27</td>
</tr>
<tr>
<td>Female</td>
<td>56%</td>
</tr>
<tr>
<td>Single</td>
<td>52%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>51%</td>
</tr>
<tr>
<td>Asian</td>
<td>24%</td>
</tr>
<tr>
<td>African-American</td>
<td>14%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>4%</td>
</tr>
<tr>
<td>US origin</td>
<td>83%</td>
</tr>
<tr>
<td>Event</td>
<td>High impact</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Encountering a truly exceptional role model in medicine</td>
<td>78</td>
</tr>
<tr>
<td>Discovering an area of medicine that seems perfect for you</td>
<td>65</td>
</tr>
<tr>
<td>Being inspired by a special patient-care related experience</td>
<td>55</td>
</tr>
<tr>
<td>Working well with a team</td>
<td>54</td>
</tr>
</tbody>
</table>
A personal growth story
Dr. Balfour Mount

- Urology residency training: McGill University
- Surgical Oncology fellowship: Sloan Kettering

Two powerful experiences in 1973:

- He was asked to conduct a study of patients dying in the hospital (found unmet psychosocial and physical needs)


Downstream Outcomes:

- Founded ‘The Royal Victoria Hospital Palliative Care Service’ in 1975.
- Considered the father of palliative care in North America
- Research in palliative care, practice guidelines, model program for other hospital centers...
Dr. Balfour Mount

• Other relevant powerful experiences:

• Dr. Mount says that he considers his life’s work – and his health problems to be blessings. “It has added untold richness to my life. It sounds like a fanciful thing to say – it’s not.”

• Role model for hundreds; all McGill medical students would spend at least 2 weeks in the PCU.

• When I think about my role models and coaches, he is at the top of the list.
Video of Dr. Balfour Mount

• From ‘The Choice is Yours’; a documentary film focused on the life and philosophy of Viktor Frankl, MD, PhD
Final Thought
The Miller-Coulson Academy of Clinical Excellence

Mission Statement
To recognize and promote excellence in patient care at Johns Hopkins for the benefit of the individuals and communities that we serve.
The Academy’s Definition of Clinical Excellence in Academia

• Achieving a level of mastery in the following 6 areas as they relate to patient care:
  i. communication & interpersonal skills
  ii. professionalism and humanism
  iii. diagnostic acumen
  iv. skillful negotiation of the healthcare system
  v. knowledge
  vi. scholarly approach to clinical practice, and

• Exhibiting a passion for patient care, and

• Explicitly modeling this mastery to medical trainees.
Academy Programs

CLINICAL COMPETENCE

UNHAPPY PATIENTS

HAPPY PATIENTS

Dr. Walsh

Dr. Hellmann
Training for Competency

- The Innovators Prescription, by Clayton Christensen (Harvard business school professor), describes the difference in training that one of his colleagues experienced when he worked one summer at an American car manufacture and one summer at Toyota (the pre-this year Toyota!). His job at both places was to install the front passenger seat. At the American plant he was told the steps, given an overview and then put on the line. He had 58 seconds to do it. Although he was technically gifted (a graduate of MIT), he repeatedly failed and had to stop the assembly line.

- At Toyota, he was told at orientation that he had the privilege of installing the passenger seat, and that the process required him to master 7 specific steps. Each step was described in detail. Moreover, he was not allowed to go to step 2 until he had demonstrated mastery of step 1. He was told the training duration could vary from 2 hrs or 2 wks--what was not allowed to vary was the (perfect) result.

- Time for us to do more? Do more with simulation? Do more to verify that our trainees are competent listening to the heart, listening to the patient, ordering tests, doing ultrasound, doing bronchoscopy