Physician Burnout as a Personal and Public Health Issue

The Need to Reassess Best Use of Resources

Michael R. Privitera MD, MS
Professor of Psychiatry
Director, Medical Faculty and Clinician Wellness Program
University of Rochester Medical Center
Chair, MSSNY Task Force on Physician Stress and Burnout.
Michael_Privitera@urmc.rochester.edu

Becker’s Hospital Review Conference
April 18, 2017
The Widespread Problem of Doctor Burnout

By PAULINE W. CHEN, M.D.  AUGUST 23, 2012 3:50 PM  382

Doctors Are Burned Out by Busywork: Study

Mandy Oaklander  @mandyoaklander  June 27, 2016

The Story Behind Epidemic Doctor Burnout And Suicide Statistics
Perspectives to be Reconciled

1. Physician Burnout is the doctors problem
   a. They need more “grit” and resilience
   b. We need to select better candidates
   c. They just need more mindfulness and yoga

2. Physician Burnout is physician abuse and the organizations need to do something about it.

3. Burnout can’t be a major problem
   a. Plenty of people still go to medical school
   b. They still show up for work
Burnout and Work Life Balance

2011 → 2014 (MDs vs. Gen Pop)

Burnout

- Burnout MDs
- Burnout General Population

Work Life Balance

- WLB MDs
- WLB General Population


FIGURE 2. Changes in burnout and satisfaction with WLB in physicians and population year are shown on the x-axis. Burnout (A) and satisfaction with WLB (B) are shown on the y-axis. WLB = work-life balance.
## Burnout and Staff-Patient Interaction

<table>
<thead>
<tr>
<th>Burnout Criteria</th>
<th>Effect on Staff-Patient Interaction</th>
</tr>
</thead>
</table>
| **Emotional Exhaustion**                      | • Delay of needed interactions with patient  
• Less tolerance, irritability  
• Not much left to give  
• Decreased Patient Satisfaction |
| **Depersonalization/Callousness**             | • Withdrawal from patient  
• Decreased compassion  
• Decreased listening to patient  
• Increased cynicism and sarcasm  
• Increased risk of patient-on-staff workplace violence |
| **Decreased Efficacy**                        | • Poor occupational confidence  
• Think making poor decisions  
• Later, actually making poor decisions  
• Cognitive Flexible Memory (CFM) switches to Habit Memory (HM) causes less differential diagnosis and poorer care plan  
• HM: Reflex responses to stimuli—survival mode  
• Cognitive impairments of decreased executive function: Decreased attention, focus, situational awareness, long term perspective, ability to anticipate patient and family needs & other patients on unit |

*Perception of decreased efficacy becomes reality as burnout becomes worse*
Training/Work-Induced
Changes in Resilience & Performance (examples)

A. Pre-Med → Medical School

Matriculating medical students have lower distress than age-similar college graduates

What happens to distress relative to population after beginning medical school?

B. Before Internship → During Internship

Depression During Internship (N=740 interns)
Percentage with “Depression” (PHQ >10)

<table>
<thead>
<tr>
<th>Internship year</th>
<th>Suicidal Ideation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>2.5%</td>
</tr>
<tr>
<td>3 months in</td>
<td>4.0%</td>
</tr>
<tr>
<td>6 months in</td>
<td>11.1%</td>
</tr>
<tr>
<td>9 months in</td>
<td>9.1%</td>
</tr>
<tr>
<td>12 months in</td>
<td>8.1%</td>
</tr>
</tbody>
</table>


Predictors of Medical Errors

<table>
<thead>
<tr>
<th>Depression</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never-depressed</td>
<td>13.6%</td>
</tr>
<tr>
<td>Acutely depressed</td>
<td>26.2%</td>
</tr>
<tr>
<td>Chronically depressed</td>
<td>32.8%</td>
</tr>
</tbody>
</table>
The Impact of Clinician Burnout is Costly

Multiple Dose-related Relationships

Institutional & Patient Toll:
- Increased medical errors and malpractice claims
- Disruptive behavior
- Reduced empathy for patients, patient satisfaction,
- Reduced patient adherence to treatment regimens.
- Reduced career satisfaction

Financial Toll:
- 27% drop in patient satisfaction scores
- 40% of turnover costs attributed to work stress
- 114% increase of medical claims by employees.
- 30% of short-term and long-term disability costs.

Personal Toll:
- Higher Suicide Rate among physicians- 400/yr.
- Substance abuse
- Divorce
- Coronary Heart Disease:
  CHD 1.4 fold up to 1.79 at high burnout levels.
  Dysregulated HPA axis
  Pro-inflammatory cytokines
  Inflammation biomarker
  Higher allostatic load
  Depression.

54% of our MDs /DOs

Toker S. et al Psychosomatic Medicine 74:840-847)
Depressive and Aggressive Reactions to Stress in Burnout (Dose-Related)

Over stressed
54% of MDs have High Burnout

39.8% of MDs have Depression

2-4% of MDs are Disruptive

Organizational Health/ Organizational Ergonomics helps reduce the externally induced chaos

Chaos in the work setting
Uncoordinated mandates
Unharmonized

=> High extraneous cognitive load

National/State decisions
Many "cooks"

Industry/ Local decisions
Many "cooks"

Internalizer

Externalizer
Cognitive Workload Risks

• Cognitive workload is known to be a risk factor to workers and the people they serve in such professions as:
  – Airline pilots
  – Air traffic controllers
  – Nuclear power workers.
  – Simultaneous Translator at UN

• Yet...... little attention to these risks discussed in the delivery of healthcare by clinicians.
Current Healthcare Ecosystem

Uncoordinated Excessive Cognitive and Emotional Load

**Macro Level**
- National, state, industry, regulatory

**Socio-political Factors, Public Interest Groups, Business of Medicine and Profit Agendas, Bad outcomes: Reactive preventive measures**

- **Well-intended**
  - EMR - not well designed.
  - Multiple Quality Metrics untested un-harmonized.
  - Patient Safety Movement silo-ed, uncoordinated
  - Public demand for increased clinician education as solution.
  - Patients as primary concern

- **Not so well-intended**
  - Hassle Factors by Insurance intended to wear down provider, cost control methods adapted from auto production. For-profit Agendas. Healthcare as investment vehicle.
  - Shareholders as primary concern

**Malpractice Organization**

Mitigate or Amplify = ?

**Internal world:**
- Personality, altruism, workaholic, perfectionism, obedience
- Everyone is evaluating my competence, Don’t want them to think I can’t handle this …….after all the sacrifice.

=> Loose gauge of how stressed really are!!

**External world:**
- “Hidden curriculum” in training
- Complaining = whining
- Self-effacement - how feel not matter

**Meso Level**
- Hospital/Healthcare system-

**Personal Life**
- Debt from training
- Duties in family
- Relationships
- Wishes

- 21 years of education
- Self-sacrifice

**Micro Level**
- Individual clinician/staff with patients

- Being a clinician
  - Dealing with pain, sickness, death.
  - Emotion work with stressed patients and families
  - Delivering bad news

**Exo Level**
- Individual and their family in daily life outside of medicine

Reasonable Goal: Achieving excellence in patient care

Reasonable profit margin: Helping growth and sustainability of healthcare company.
Moore’s Law: Computer power of microchips will double every two years, delivering exponential growth of computing power.

Physical technology ahead of Social Technology, Human Adaptability Impact.

We need:
Smarter ways of education, support, resources to help Human Adaptability

Adapted from Teller E. and Moore G. in Friedman T. Thank you for being Late. Farrar, Straus Giroux Publishers 2016
Accelerated Rate of Administrative Load

- Increasing rate of administrative/regulatory requirements.
- No resource, time, or support allocation.
- No agency oversees Total Risk/Benefit Ratio, Human Factors in delivery of care.
Six categories of Work Stress that can contribute to Burnout

1. **Excessive workload** - physical, cognitive and emotional
2. **Lack of control** - being able to influence work environment
3. **Poor balance between effort and reward** - material and intangible rewards.
4. **Lack of community** - culture of mutual appreciation and teamwork
5. **Lack of fairness** - resources and justice
6. **Value conflict** - moral distress of having to participate in suboptimal, unethical circumstances.

Self Determination Theory (SDT) and Work Related Outcomes

• Three basic psychological needs of SDT:
  – **Autonomy**: Choice and self-endorsed
  – **Competence**: Effective and masterful
  – **Relatedness**: Mutual connection with and care for important others

• **Frustration** of these => Higher levels of emotional exhaustion, energy depletion, dysfunction, illness, turnover intention and absenteeism.

<table>
<thead>
<tr>
<th><strong>Need dissatisfaction</strong></th>
<th>Passive disregard for basic psychological needs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E.g., not having a voice in organizational decision-making</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Need frustration</strong></th>
<th>Active thwarting of these needs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E.g., being forced to comply with a particular decision that the employee cannot stand behind and endorse</td>
</tr>
</tbody>
</table>

EMR Work Bleeds into Home Life.

- Access to the medical records when at home => has extended the physician work day
- ≥ 10 hours per week on EHR after they go home, on nights and weekends.

“Pajama Time”
Sat nights belong to Epic

Compliments of Christine Sinsky MD, VP for Clinician Satisfaction, American Medical Association, and Brian Arndt, University of Wisconsin.
## Top 10 Work Related Stressors in Physicians

**Answered:** 1,178  
**Skipped:** 13

<table>
<thead>
<tr>
<th>Rank</th>
<th>Stressor</th>
<th>Description</th>
<th>% Responses</th>
<th># Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Length and degree of Documentation Requirements</td>
<td>Extension of Workplace into Home Life (E-mail, completion of records, phone calls)</td>
<td>65.99%</td>
<td>786</td>
</tr>
<tr>
<td>2</td>
<td>Prior Authorizations for: Medications/Procedures/Admissions</td>
<td></td>
<td>58.27%</td>
<td>694</td>
</tr>
<tr>
<td>3</td>
<td>Dealing with difficult patients</td>
<td></td>
<td>54.74%</td>
<td>652</td>
</tr>
<tr>
<td>4</td>
<td>Hospital/ Insurance company imposed Quality Metrics</td>
<td></td>
<td>51.89%</td>
<td>618</td>
</tr>
<tr>
<td>5</td>
<td>EMR functionality problems</td>
<td></td>
<td>51.05%</td>
<td>608</td>
</tr>
<tr>
<td>6</td>
<td>CMS/State/Federal laws and regulations</td>
<td></td>
<td>44.33%</td>
<td>528</td>
</tr>
<tr>
<td>7</td>
<td>Lack of voice in being able to decide what good care is</td>
<td></td>
<td>40.39%</td>
<td>481</td>
</tr>
<tr>
<td>8</td>
<td>Requirement for increased CME/Maintenance of Certification</td>
<td></td>
<td>38.87%</td>
<td>463</td>
</tr>
<tr>
<td>9</td>
<td>Dealing with difficult colleagues</td>
<td></td>
<td>31.49%</td>
<td>375</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>31.49%</td>
<td>375</td>
</tr>
</tbody>
</table>
Higher Burnout occurs with:

- Higher the **hours worked per week**
- Higher the **stress on the job**
- Less control over workload

Lower the job satisfaction

Overall, I am satisfied with my current job:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>82%</td>
</tr>
</tbody>
</table>

% Burned Out

I feel a great deal of stress because of my job:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>6%</td>
<td>94%</td>
</tr>
</tbody>
</table>

% Burned Out
Higher Burnout occurs with:

The less sufficient the time for documentation

- Sufficiency of time for documentation is:
  - Poor: 70%
  - Marginal: 30%
  - Satisfactory: 40%
  - Good: 20%
  - Excellent: 10%

- % Burned Out

The more hectic and chaotic the atmosphere of primary work area

- Which number best describes the atmosphere in your primary work area?
  - Calm: 20%
  - Busy but reasonable: 50%
  - Hectic, chaotic: 70%

- % Burned Out

The less the alignment of professional values with department leaders

- My professional values are well aligned with those of my department leaders:
  - Strongly disagree: 80%
  - Disagree: 70%
  - Neither agree nor disagree: 40%
  - Agree: 40%
  - Strongly agree: 20%

- % Burned Out

The more excessive the time spent on EMR at HOME

- The amount of time I spend on the electronic health record (EHR) at HOME is:
  - Minimal/none: 40%
  - Modestly high: 60%
  - Moderately high: 60%
  - Excessive: 70%

- % Burned Out
Key Structures Human Brain

- **Brain** - neurons are **living cells**. Need primarily **glucose and oxygen**.

- Brain power = limited **neural resource**; when expend it, needs to be recharged
Executive Functions of the Brain
Pre Frontal Cortex

1. Focus, Attention
2. Self Control of Behavior and Speech
3. Plan and Organize
4. Perspective Taking
5. Cognitive Flexibility
6. Medical and other Decision Making
7. Ability to Defer Gratification
8. Estimating Time
9. Working Memory
Attention
Prefrontal cortex

Attention is limited capacity resource used when we:

- Sort
- Sift
- Classify
- **Attention switch** (going between tasks, interruptions) - has high cost of neural resources.
Chronic Stress and Memory

Hippocampus

• Chronic psychosocial stress (4–6 weeks): Impairs spatial short-term memory
  – No significant effect on learning or long-term memory

• Longer periods of stress (>12 weeks): Impairs short-term as well as long-term memory

Alkadhi K. Brain Physiology and Pathophysiology in Mental Stress
ISRN Physiology Hindawi Publishing Corporation Volume 2013, Article ID 806104,
Cognitive Flexible Memory: Prefrontal cortex/Executive function

Requires significant neural resources to function.

1. Examine and weigh multiple factors
   • Synthesize differential diagnosis from what learned in medical training.
   • More comprehensive and effective care plan.

2. Make the mental connection for planning next steps
   • The anticipated need: Emotional availability to the patient and family.

Habit Memory:

Shift to this function when neural resources low.

• Spares cognitive resources/less drain
• Automates response to a preceding stimuli
• Goal Shielding occurs: Hyper focus to concrete goal, shields out anything else
• Survival mode.

****Leads to non-fund of knowledge errors****
Cognitive Load Theory

Extraneous Load - burden in cognitive processing information that can be improved by better design.

Germane Load, manage the care, emotional work of patient care, work with families, operate EHR

Intrinsic Load: inherent level of difficulty. E.g. Diagnosis and treatment of CHF, HTN, CVA, Depression etc etc thought to be immutable load

Medical Decision Making (MDM) Normal

Extrinsic Load - Excessive

Germane Load

Intrinsic Load

Medical Decision Making Impaired !!**

Goal is to **reduce extraneous load** and promote germane load.

Ergonomics

1. **Physical ergonomics** - deals with human body’s responses to physical and physiological work loads
   - e.g. vibration, force, repetition, posture.

2. **(Neuro)Cognitive ergonomics** - deals with brain and mental processes and capacities of humans when at work;
   - e.g. mental strain from workload, decision making, human error and training efforts.

3. **Organizational ergonomics** - deals with organizational structures, polices and processes in work environment;
   - e.g. shift work, scheduling, job satisfaction motivation, supervision, teamwork, ethics, best ways of communicating, roll out of new initiatives, etc..

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**HEALTH CARE SYSTEM**

- Individual MD Based approach
- Hospital & Department-Based approaches
The Quadruple Aim Framework:

- **4th Aim**: Improving the experience of providing care ¹,²,³,⁴ Healthcare workforce of physicians, nurses and employees finding joy and meaning in their work. [Human Factors in Care Delivery]

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Barriers to Recognition and Resolution of Organizational Stress and Burnout


2. **Organizational response**: Systemic lack of awareness of total collective load on individual clinicians. Silo-ed sources of authority. Confirmation bias: “of course doctors will complain about anything that is new” (missing real signal of distress).

3. **Socio-political perception**. Patient Safety initiatives but without interagency collaboration and harmony. Halo bias: if called “quality” it must be good. (Too numerous, chaotic, unproven “quality” metrics-- not good, harmful).

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Leadership, Burnout and Satisfaction

1. Holds career development conversations with me
2. Inspires me to do my best
3. Empowers me to do my job
4. Is interested in my opinion
5. Encourages employees to suggest ideas for improvement
6. Treats me with respect and dignity
7. Provides helpful feedback and coaching on my performance.
8. Recognizes me for a job well done
9. Keeps me informed about changes taking place at Mayo Clinic
10. Encourages me to develop my talents and skills
11. I would recommend working for your immediate supervisor
12. Overall, how satisfied are you with your immediate supervisor

Favorable Leadership Scores on each of these questions significantly associated with decreased MD Burnout and increased MD Satisfaction each with p< .001 for Burnout and Satisfaction.

# Responsibility Matrix

<table>
<thead>
<tr>
<th>Physician Responsibility</th>
<th>Administrator Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Action</strong></td>
<td><strong>Comment</strong></td>
</tr>
<tr>
<td>Acknowledge Change</td>
<td>New issues, understand their impact, understand how to adapt</td>
</tr>
<tr>
<td>Own Safety and Quality</td>
<td>Acknowledge variability of care and its impact on outcomes, improve care delivery</td>
</tr>
<tr>
<td>Promote Accountability and Peer Mentoring</td>
<td>Must hold each other accountable, and be proactive to advance this responsibility</td>
</tr>
<tr>
<td>Stop Bad Behavior</td>
<td>Have to stop yelling, bullying, lack of follow-up, not responding or outright verbal or physical abuse.</td>
</tr>
<tr>
<td>Practice Humility</td>
<td>Respect the knowledge and skills of our non clinical colleagues.</td>
</tr>
<tr>
<td>Lead By Example</td>
<td>Physicians are looked up to for guidance and advice and people closely follow their actions.</td>
</tr>
</tbody>
</table>

## Burnout Interventions: Need Both

### Individual
- Encourage recognition of Burnout in the face of Medical Culture and “Hidden Curriculum”
- Physicians start off more resilient than general population: **Individual interventions must be paired with organizational interventions**
- Wellness Seminar series as “safe place’
- Avoid blaming the victim
- Normalize self care
- Normalize boundaries between work and home despite technology
- Multiple individual interventions available
  - Mindfulness
  - Resiliency training
  - Gratefulness
  - 3 Good Things
  - Yoga
  - Coaching
  - Employee Assistance- Wellness Division
  - Self Help websites and literature
  - Peer Support
  - Clinician ombudsman to have work/life balance representation
  - Diet, exercise

### Organizational
- **Overcome the medical culture of endurance** where staff must deny stress
- **Leadership style and concern is key**
- Establish: Wellness Initiative Strategic Planning Work Group
- Include **human factor issues** in healthcare delivery
  - Neuro-cognitive and organizational ergonomics
  - The Quadruple Aim Framework:
    - Costs, Quality, Patient experience, and **Fourth Aim: Experience of providing care.**
- Attempt to understand the front line problems: **Anonymous survey** to learn key pain points for clinicians, **round table discussion** of aggregate findings and **leadership commitment to action.**
- Encourage stronger administrator/physician partnerships
- Use **clinician wellness and career satisfaction metrics** and tie these into quality of care, reduction of malpractice, errors, and patient satisfaction.
- Block out time and resources to help **organize completion of all mandatories, regulations**
- No reporting of seeking mental health care on licensure, malpractice carrier, credentialing applications or renewals.
- **Confidentiality** in seeking help
Executive Leadership and Nine Organizational Steps to Promote Engagement and Reduce Burnout (Mayo Model)

- Acknowledge and assess the problem
- Harness the power of leadership
- Develop and implement targeted work unit interventions
- Cultivate community at work
- Use rewards and incentives wisely
- Align values and strengthen culture
- Promote flexibility and work-life integration
- Provide resources to promote resilience and self-care
- Facilitate and fund organizational science
Conclusions

1. Individual and institutional/organizational interventions for Burnout reduction are effective

2. Call for more Organizational and Human Factor/(Neuro)Cognitive Ergonomic science at national, state, industry and local levels in healthcare.

3. Attention to 4th Aim (experience of providing care) of Quadruple Aim framework critical to the success of other 3 aims (cost, quality, patient experience)

4. Effective and involved leadership is critical for things to improve

5. “Meaningful progress will require collaborative efforts by national bodies, health care organizations, leaders, and individual physicians, as each is responsible for factors that contribute to the problem and must own their part of the solution”\(^1\).

\(^1\) Tait D. Shanafelt, MD\(^1\); Lotte N. Dyrbye, MD, MHPE\(^1\); Colin P. West, MD, PhD Addressing Physician Burnout. The Way Forward JAMA. Published online February 9, 2017. doi:10.1001/jama.2017.0076

Michael_Privitera@urmc.rochester.edu