Burnout in Medicine
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May 14, 2013

Disclosures
- I have no disclosures.

Objectives
- Define burnout
- Describe the effects of burnout on medical students
- Describe the effects of burnout on residents
- Describe the effects of burnout on attendings
- Discuss strategies to recognize and combat burnout

Attitudes are contagious. Mine might kill you.

To Err is Human
- 44,000-88,000 US patients die each year because of preventable medical errors
- Preventable errors cost between $17 billion and $29 billion per year
- “Health professionals pay with loss of morale and frustration at not being able to provide the best care possible”

Osler
Engrossed late and soon in professional cares, getting and spending, you may so lay waste your powers that you may find, too late, with hearts given way, that there is no place in your habit-stricken souls for those gentler influences which make life worth living
Are we happy?

- Studies of US physicians have shown a growing dissatisfaction with the profession, when compared to prior decades.
- As of 2001, the Joint Commission has mandated all hospitals to have a process to address physician well being.

Why are we talking about burnout?

- Harvard Medical School teaching hospital study
- There is an association between professional satisfaction of the physician and patient satisfaction
- Happy doctors = Happy patients

Why are we talking about burnout?

- 50,000-100,000 patients die each year from medical errors
- 5-10% of hospitalized patients suffer medical errors
- 10% of physicians suffer from alcohol or substance abuse
- 47% of medical residents admit to making a "serious medical error" during their training

MY BURNOUT STORY

"None of my patients got better, that wouldn’t have gotten better on their own"

~Anonymous Loyola Hospitalist (paraphrase)

Burnout

1. Emotional Exhaustion
   - Overwhelming work demands deplete an individual’s energy
2. Depersonalization (cynicism)
   - Individual detaches from job
3. Low sense of personal accomplishment

Maslach – “index of dislocation between what people are doing versus what they are expected to do…an erosion of the soul”
   - antithesis of “engagement” (energy, efficacy, involvement)
Newsweek – “the silent anguish of healers”
ICD-10 – “state of vital exhaustion” (listed under “problems related to life-management difficulty”)

The Burnout Cycle

- A compulsion to prove oneself
  - Excessive ambition
  - Working harder
  - High personal expectations
- Neglecting needs
- Denial
- Withdrawal
- Behavioral changes
- Depersonalization
- Depression
Contributors to Burnout

- Excessive workload
- Lack of control to which the extent of the workload exceeds the capacity (believed to be the single greatest predictor)
- $$$
- Loss of autonomy
- Administrative burden (inefficiency)
- Decline in the "sense of meaning"
- Difficulty integrating personal/professional life
- Difficulty setting limits
- Personality

Maslach Burnout Inventory (abbreviated)

<table>
<thead>
<tr>
<th>Emotional Exhaustion</th>
<th>Depersonalization</th>
<th>Personal Accomplishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.19</td>
<td>7.12</td>
<td>36.53</td>
</tr>
</tbody>
</table>

Burnout = Emotional Exhaustion > 27, depersonalization > 10, personal accomplishment < 33

Our Patient

- CC: "emotional exhaustion"
- HPI: 23 y/o M c no significant PMH presents to your clinic with complaints of fatigue, anhedonia

Continued

- SH: 1st year medical student at a prestigious, terribly expensive medical school
- Good family
- Tobacco: denies
- Illicits: denies
- Alcohol: social
- Exam: benign

Depression – PRIME-MD

1) Have you felt sad, low, down, depressed or hopeless? (depression)
2) Have you lost interest or pleasure in the things you usually like to do? Have you been as social as usual? Have you been less interested in interacting with others (family, co-workers)? (loss of interest)

If yes to either of these questions, evaluate
- Sleep disturbance
- Appetite disturbance
- Loss of energy
- Difficulty concentrating
- Feelings of worthlessness
- Psychomotor retardation
- Suicidal thoughts

86%-96% sensitivity and 57%-75% specificity for MDD

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### Scary Statistics
- Suicide rate among male physicians is 40% higher than among men in the general population
- 130% higher among female physicians
- The increased risk likely begins in medical school
- Past studies have shown between 3% and 15% of medical students have contemplated suicide
- Medical students have a substantially lower mental quality of life than age-matched general population

### Burnout and Suicidal Ideation among US Medical Students
- Multicenter (7 medical schools, 5 longitudinally)
- Objective – assess the frequency of suicidal ideation among medical students and explore its relationship with burnout
- 2248 (52.4%) of 4287 eligible students responded
  - Burnout – Maslach Burnout Inventory
  - Depression – PRIME-MD
  - Quality of Life – Medical Outcomes Study Short Form 8 (SF-8)
  - Longitudinal component to compare changes in burnout using data from a 2006 survey

<table>
<thead>
<tr>
<th>Variable</th>
<th>Participants (n = 2248) and Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide Ideation</td>
<td></td>
</tr>
<tr>
<td>– Ever considered suicide, n (%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1675 (74.9)</td>
</tr>
<tr>
<td>Yes</td>
<td>563 (25.1)</td>
</tr>
<tr>
<td>Considered suicide last year, n (%)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>1981 (88.8)</td>
</tr>
<tr>
<td>Yes*</td>
<td>267 (11.2)</td>
</tr>
</tbody>
</table>

- 25.1% of medical students have considered suicide
- Assuming non-respondents answered “No”, it drops to ~6%
- 11.2% considered suicide within the past year

### Longitudinal Results
- 856 students responded to the 2006 and 2007 surveys
  - Students who screened positive for burnout in 2006 were twice as likely to report suicidal ideation the following year (OR 2.33, 95% CI 1.47-3.70)
  - Students who screened positive for depression were three times more likely to report suicidal ideation in the following year (OR 3.08, 95% CI 1.91-4.97)
Burnout and Suicidal Ideation among US Medical Students

- **Reversibility of burnout**
  - 370 students screened positive for burnout in 2006
    - 271 remained burned out 1 year later (73.2%)
    - 99 were no longer burned out (26.8%)
  - 132 of the remaining 422 students became burnt out the following year (31.3%)

Burnout and Professional Behaviors

- Same researchers, same medical schools
- Similar burnout results
  - > 52% burnout, 52.5% depression
- Unprofessional Clinical Behaviors (Cheating/Dishonest)
  - Ex: cheating or allowing cheating on a test, lied about exam findings
- Attitudes Toward Pharmaceutical Industry
  - Ex: accept $500 for filling out a survey, pens, pocket antimicrobial texts
- Physicians’ Responsibility in Society
  - Ex: problems of the medically underserved
- Students with burnout were more likely to report at least one unprofessional clinical behaviors (35% vs 21.9%)
- Burned out students were less likely to hold altruistic views regarding physicians responsibility to society
- On multivariable analysis, burnout was the only variable independently associated with dishonest clinical behaviors or lack of altruistic attitudes

Burnout – Medical Students

- Burnout and depression are common among medical students (possibly as high as 50%)
- Perhaps 10% of medical students experience suicidal ideation during medical school
- Burnout is associated with unprofessional behaviors, which may continue beyond medical school

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Our Patient, Part 2

- Successfully completed medical school at his large, terribly expensive institution
- Married, no children
- Debt: 160K (interest deferred...for the most part)
- One major illness in immediate family
- Starting internal medicine at a large, well respected medicine residency
- Burnout symptoms largely resolved in medical school, though now he worries they may return in residency

Boy on a High Dive – Norman Rockwell
Saturday Evening Post
Quality of Life, Burnout, Educational Debt and Medical Knowledge Among Internal Medicine Residents

- Study of internal medicine residents using data collected from the 2008 and 2009 Internal Medicine In-Training Exam (IM-ITE, “in-service”) scores and the 2008 IM-ITE survey
  - Quality of Life (QOL)
  - Satisfaction with work-life balance
  - Burnout (Maslach Burnout Inventory)
- Hypothesis – Distress would be associated with greater educational debt, lower test scores and decreased learning

21,208 of the 22,132 US IM residents completed the IM-ITE (95.8%) in 2008
16,394 total respondents to the survey (77.3%)
8396 of the eligible 11,119 residents (75.5%) remaining in 2009 provided data, used in longitudinal analysis

Quality of Life, Burnout, Educational Debt and Medical Knowledge Among Internal Medicine Residents

- QOL reported “as bad as it can be” or “somewhat bad” in 14.8% of residents
- 32.9% were somewhat or very dissatisfied with work-life balance
- 45.8% reported at least weekly feelings of emotional exhaustion
- 28.9% reported symptoms of depersonalization at least weekly
- 1 symptom of burnout was present in 51.5% of residents

242 residents with the lowest QOL scored 3% lower on ITE)

The 600 residents who experienced daily symptoms of emotional exhaustion scored 4.2% lower than the 242 who answered “never” (99% CI, P<.001)

Test scores for those who started with the lowest QOL or burnout symptoms never recovered to the level of their colleagues during the course of training

Quality of Life, Burnout, Educational Debt and Medical Knowledge Among Internal Medicine Residents

- Quality of life and satisfaction with work-life balance were highest amongst PGY-3 residents.
Quality of Life, Burnout, Educational Debt and Medical Knowledge Among Internal Medicine Residents

- Symptoms of emotional exhaustion were more common among PGY-1 residents
- Depersonalization increased after PGY-1 year

Approximately 60% of residents that are more than $150,000 in debt display at least one symptom of burnout.

QOL and satisfaction with work-life balance worsened as educational debt increased.

Association of Perceived Medical Errors with Resident Distress and Empathy: a Prospective Longitudinal Study

- Prospective, longitudinal cohort study of categorical and preliminary IM residents at Mayo Clinic (Rochester)
- Residents invited to participate during their orientation prior to residency
- Evaluate the frequency of perceived medical errors among internal medicine residents and to measure the association of these medical errors with QOL, burnout, depression and empathy

Association of Perceived Medical Errors with Resident Distress and Empathy: a Prospective Longitudinal Study

- Survey every 3 months
- Are you concerned you have made any major medical errors in the last 3 months?
  - “major” medical errors were not defined, but relied on self-perception
- Quality of Life
- Maslach Burnout inventory
- Depression scale
  - PRIME-MD
- Empathy
  - Interpersonal Reactivity Index
Errors were reported in 130 of 883 resident-quarters (14.7%).

34% of participants reported at least one major medical error during the study period.

Residents who reported at least one medical error throughout the survey period also had increased depersonalization and emotional exhaustion (P <.001 for both).

60% of residents who reported an error screened positive for depression at least once, twice that of the “No Error” residents.

Self-perceived errors were associated with a decreased QOL, increases in burnout and symptoms of depression.

Majority of residents discussed their errors with colleagues (83%), family and friends (65%) and supervisory faculty (54%).
British Medical Journal
2007
- 3 teaching hospitals in the US
  - Pediatric and Medicine-Pediatric residents
  - Daily survey completed by residents, daily chart reviews
  - Compared cohort of depressed and non-depressed residents
- 123 of 246 (50%) residents participated
  - 20% found to be depressed
  - 75% positive for burnout
  - Medication errors were 1.55 per month for depressed residents, .25 per month for non-depressed residents
- Burned out residents did not commit more errors than non-burned out residents
  - However, they did self-report more errors

But at least duty hours are better…?
- Drs. Ravi Gopal and Jeff Glasheen and the University of Colorado
- Changes in burnout measures and quality of education after the implementation of duty hours restrictions (2004) as compared to residents in 2003
- Hypothesized that duty hour restrictions would increase burnout due to stress from increased patient handovers
- Personal accomplishment remained stable, emotional exhaustion and depersonalization improved
- Conference attendance and overall satisfaction with their residency decreased

More duty hours discussion!
- Drs. Golian and Shanafelt at the University of Washington
- Comparing resident surveys from 2001 and 2004 (after work hour restrictions)
- Similar results
  - Emotional exhaustion improved
  - Depression, depersonalization and sense of accomplishment unchanged
  - Career satisfaction increased
- ...at the expense of conference attendance and missed educational opportunities
  - 70% of surveyed residents felt "there is not enough time for teaching by attending physicians"
  - 57% felt that "attending rounds are more focused on getting work done than on teaching"
  - Many respondents to "skipping" conference twice a month to complete patient care activities
- More residents reported a negative effect by work hour limitations on patient care

But at least they aren’t “burned out”…?
- “Will these residents provide better care as attending physicians because they are less burned out, or will the care suffer because of lack of education and commitment to their patient”

Burnout - Residents
- Approximately 50% of residents experience burnout (higher in some studies)
- Higher educational debt is associated with higher levels of burnout
- QOL improves with advancing PGY level, depersonalization also increases
- Burnout is associated with higher self-reporting of medical errors (though perhaps not with more actual errors)
- Depressed residents may be more like to commit errors
- Burnout and depression are higher in the months following a self-reported medical error
- Symptoms of burnout have improved with the implementation of duty hours, though perhaps at the expense of educational opportunities

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Our Patient, Part 3

- Successfully completed his internal medicine residency
- Married, 1 child, 1 on the way
- Debt: 160K + interest
- He believes he is "home free" and "the worst is behind me"

Physician Summary

37.9% of US physicians had high emotional exhaustion
29.4% had high depersonalization
12.4% had low personal accomplishment
45.4% Burned out
38.8% screened positive for depression
6.5% with suicidal ideation in the past year
36.9% dissatisfied with work-life balance

Physicians versus Population Controls

Physicians worked 10 hours per week more than population controls
Physicians were at higher risk for emotional exhaustion (31.9% vs 23.4%)
Higher risk for depersonalization (19.3% vs 14.8%)
Higher risk for burn out (37.5% vs 27.6%)
Lower satisfaction with work-life balance (40.1% vs 23.1%)

Burnout by Specialty

Highest Burnout %:
1) Emergency Medicine
2) Internal Medicine
3) Neurology
4) Family Medicine

Where are we?

Lowest Burnout %:
1) General Pediatrics
2) Dermatology
3) Preventative Medicine

Satisfaction with Work-Life Balance by Specialty

Highest Satisfaction:
1) Preventative Medicine
2) Dermatology
3) Pediatrics

Where are we?

Lowest Satisfaction:
1) Obstetrics/Gynecology
2) General Surgery Subspecialty
3) General Surgery

Burnout and Satisfaction With Work-Life Balance Among US Physicians Relative to the General US Population

- Physicians samples from the American Medical Association Physician Masterfile
  - Near complete record of all US physicians (independent of AMA membership)
  - 7300 physicians responded
- Probability-based sample of individuals from the US population, ages 22-65
  - Hours worked per week
  - Burnout (Maslach Burnout Inventory)
  - Depression (PRIME-MD)
  - Work-life balance
Career Fit
- Definition - the extent to which an individual is able to focus their effort on the aspect of work that they find the most meaningful
- Study of the Department of Medicine at Mayo Clinic (Rochester)
  - 34% with burnout
- Generalists more likely to be burned out than specialists
- Spending less than 20% of time on "meaningful work" was associated with higher burnout (53.8% vs 29.9%, P<.001)
- Age > 55 and burnout were the only two factors independently associated with an intent to leave academic medicine
- Time < 20% on meaningful activity, age < 55, generalist and total hours worked were independently associated with burnout

The Affordable Care Act and Burnout
- Passed in 2010
- Goals: increase rate of health insurance coverage for Americans and decrease the cost of healthcare
- Problems already facing primary care:
  - Low interest in primary care among graduating physicians
  - System already with access issues
  - Demand for care already outpaces supply of physicians
- Likely impact on primary care physicians:
  - Increased workload as previously uninsured seek PCPs
  - Cost containment will lead to decreased financial margins causing PCPs to increase workload
  - Increased administrative burden to meet new reporting requirements
  - Increased infrastructure expenses (electronic prescribing tools, computerized medical records)
- It's happened before: Massachusetts and the UK note increased burnout amongst physicians after reforming health care policies

Burnout - Attendings
- In a survey of 7300 physicians, 45.4% were burned out
  - 39% were found to be depressed
  - 6% had suicidal ideation within the past year
- Appropriate "career fit" is associated with lower burnout rates and intention to leave academics
- Burnout highest in EM and IM
- Work-life satisfaction for IM and IM subspecialties towards the bottom of surveyed specialties

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Stress management in med school and residency
- Over 600 studies recommending some form of stress management training as part of medicine training
- Only 24 studies evaluated stress intervention programs, and rarely followed the scientific method
- What is the best intervention?
- When should it begin?
- How often should it be repeated?

Burnout Prevention Strategies – Residency, Medical School
- Identify and address factors in training process which are most associated with burnout
  - Time control
  - Feeling inconsequential
- Self-care competency in residency
  - UK – "Demonstrate knowledge of responsibility to look after personal health, including maintaining a suitable balance between work and personal life, and knowing how to deal with personal illness to protect patients"
- Intern Retreat
**Burnout Prevention Strategies**  

**– Hospital or Group**

- **Reactive**
  - Employee assistance programs

- **Proactive**
  - Mentor program
  - Flexible scheduling
  - Require all physicians to have their own PCP
  - Membership in a fitness center
  - Stress management training

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**References**

- West CP, Shanafelt TD, Kolars JC. Quality of life, burnout, educational debt and medical knowledge among internal medicine residents. *JAMA*. 2001;395:529-531.
- West CP, Olmstead RL, Shanafelt TD, Kolars JC. Quality of life, burnout, educational debt and medical knowledge among internal medicine residents. *JAMA*. 2001;395:529-531.