Addressing New ACGME Requirements
Well-Being & Fatigue

Mark Atlas, MD
Pamela Carpenter, MEd, C-TAGME
John Mahan, MD
Glenn Rosenbluth, MD
Charlene Larson Rotandi, AB, C-TAGME
Ndidi Unaka, MD, MEd
Pnina Weiss, MD
What’s on your plate?

Write all of the activities, responsibilities, interests, etc. that you are currently involved in.

Mom of 5 year old!

Work!

- APPD Wellness and Resilience Project Team
- Scholarship/Presentations
- APPD Coordinators’ Council Chair
- APPD Coordinators’ EC
- TAGME Committees
- ATO/SSC
- APPD Assessment Task Force
- Symphony

Sleep!

- Coordinator Professional Development & Mentorship
- TRAVEL
- Social Activism
- Wine Tasting
- Baking/Cooking/Eating
- Swimming
- Alumnae/i Admission Chair

"WRONG"

- Swimming

"RIGHT!"

- Swimming
Common Program Requirement Revisions
Effective July 1, 2017
Physician well-being

• Balance of:
  • Culture of Wellness
  • Efficacy of Practice
  • Personal Resilience
Residency education must occur in the context of a learning and working environment that emphasizes the following principles:

- Excellence in the safety and quality of care rendered to patients by residents today
- Excellence in the safety and quality of care rendered to patients by today’s residents in their future practice
The Learning and Working Environment

• Excellence in professionalism through faculty modeling of:
  - the effacement of self-interest in a humanistic environment that supports the professional development of physicians
  - the joy of curiosity, problem-solving, intellectual rigor, and discovery

• Commitment to the well-being of the students, residents, faculty members, and all members of the health care team
Patient safety, QI, Supervision

• All physicians share responsibility for promoting patient safety and enhancing quality of patient care.
  • Culture of Safety
  • Quality Improvement
  • Supervision and Accountability
    • Graduated levels of supervision
    • Accountability; “ownership”
Professionalism

• Programs, in partnership with their Sponsoring Institutions, must educate residents and faculty members concerning the professional responsibilities of physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients.

• All residents and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. This includes the recognition that under certain circumstances, the best interests of the patient may be served by transitioning that patient’s care to another qualified and rested provider.
Well-Being

• In the current health care environment, residents and faculty members are at increased risk for burnout and depression. Psychological, emotional, and physical well-being are critical in the development of the competent, caring, and resilient physician. Self-care is an important component of professionalism; it is also a skill that must be learned and nurtured in the context of other aspects of residency training. Programs, in partnership with their Sponsoring Institutions, have the same responsibility to address well-being as they do to evaluate other aspects of resident competence.
Fatigue mitigation

• Programs must educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;
• educate all faculty members and residents in alertness management and fatigue mitigation processes;
• encourage residents to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.
Work hours

• Clinical and educational work hours must be limited to no more than 80 hours per week, averaged over a four-week period, inclusive of all in-house clinical and educational activities, clinical work done from home, and all moonlighting.
Work Hours

• In rare circumstances, after handing off all other responsibilities, a resident, on their own initiative, may elect to remain beyond their scheduled period of duty or return to the clinical site in the following circumstances:
  • to continue to provide care to a single severely ill or unstable patient
  • humanistic attention to the needs of a patient or family
  • to attend unique educational events
Work Hours

• Time spent on patient care activities by residents on at-home call must count toward the 80-hour maximum weekly hour limit.

  • Need not be documented in detail, an estimate suffices
  • Fellow responsibility to report
  • Program Director must be aware and if will put fellow above 80-hour/week limit to make changes
ACGME Requirement Revisions

• ACGME Disseminated revision to guidelines for subspecialties in pediatrics

• Program leadership, including the program director and associate program director(s), must be provided with a minimum total of 20-35 percent full time equivalent (FTE) protected time for the administration of the program (not including scholarly activity), depending on the size of the program. (Core)

• The Sponsoring Institution must provide support for a program coordinator(s) and other support personnel required for operation of the program. (Core)
Adverse Event Disclosure

- All residents must receive training in how to disclose adverse events to patients and families.
- Residents should have the opportunity to participate in the disclosure of patient safety events, real or simulated.
Professional Environment

• Programs must provide a professional, respectful, and civil environment that is free from mistreatment, abuse, or coercion of students, residents, faculty, and staff. Programs, in partnership with their Sponsoring Institutions, should have a process for education of residents and faculty regarding unprofessional behavior and a confidential process for reporting, investigating, and addressing such concerns.
Well-Being

This responsibility must include:

- to enhance the meaning that each resident finds in the experience of being a physician, including
  - protecting time with patients
  - minimizing non-physician obligations
  - providing administrative support
  - promoting progressive autonomy and flexibility
  - enhancing professional relationships
Well-Being

This responsibility must include:

• attention to scheduling, work intensity, and work compression that impacts resident well-being

• policies and programs that encourage optimal resident and faculty member well-being
  • Residents must be given the opportunity to attend medical, mental health, and dental care appointments, including those scheduled during their working hours.
Well-Being

Attention to resident and faculty member burnout, depression, and substance abuse.

• educate faculty members and residents in identification of the symptoms of burnout, depression, and substance abuse
  • in themselves and others
  • Notify PD if they are concerned that another resident, fellow, or faculty member may be displaying signs of burnout, depression, substance abuse, suicidal ideation, or potential for violence;
Well-Being

There are circumstances in which residents may be unable to attend work, including but not limited to:

- fatigue
- Illness
- family emergencies.

Each program must have SOPs that ensure coverage of patient care in the event that a resident may be unable to perform their patient care responsibilities

- must be implemented without fear of negative consequences for the resident who is unable to provide the clinical work.
Work hours

RETURN TO CLINIC

- In rare circumstances, after handing off all other responsibilities, a resident, on their own initiative, may elect to remain or return to the clinical site in the following circumstances:

  - to continue to provide care to a single severely ill or unstable patient
  - For humanistic attention to the needs of a patient or family;
  - to attend unique educational events
Work Hours

ROTATION SPECIFIC EXCEPTION

• A Review Committee may grant rotation-specific exceptions for up to 10 percent or a maximum of 88 clinical and educational work hours to individual programs based on a sound educational rationale.
Burnout in Pediatric Residents
A National Survey to Inform Future Interventions

John D Mahan, Maneesh Batra, Kathi J. Kemper, Hilary McClafferty, Charles Schubert, Janet Serwint, Betty Staples, Paria Wilson, Alan Schwartz.
For the Pediatric Resident Burnout – Resilience Study Consortium

http://pedsresresilience.com
All authors have documented that we have no financial relationships to disclose or Conflicts of Interest (COIs) to resolve.
Background

Resident Burnout

- Suboptimal patient care
- Impaired resident performance
- Decreased patient satisfaction
- Decreased job satisfaction
- Poor resident health: mental, physical

Prins, Med Teach 2007; Wallace, Lancet 2009; Dyrbye, JAMA 2010; Baer, Pediatrics 2017; Mahan Pediatrics 2017
Pediatric Resident Burnout-Resilience Study Consortium (PRB-RSC)

• **How:** Established in 2015

• **Why:** Goals:
  1. To improve pediatric resident resilience and attributes of wellness
  2. Describe the epidemiology and relationships between burnout, resilience, and attributes of wellness
  3. Test interventions that positively impact burnout, resilience, and attributes of wellness
PRB-RSC Participating Sites

2016 = 31 sites
2017 = 43 sites
Survey Tool

- Total of 141 items, 12-15 min to complete
- Demographics & Residency Characteristics
  
  | Age, Race | Year of training |
  | Gender | Proximity to weekend and vacation |
  | Marital status | Type of rotation |
  | Debt | Recent experiences (e.g., night call, patient death) |

- Attributes of Wellness
  
  | Burnout (MBI) | Self-compassion |
  | Resilience | Empathy |
  | Stress | Sleepiness |
  | Mindfulness | Career satisfaction |
Key Findings

• PRB-RSC 2016 Findings
  - 34 programs (22 with both peds and med-peds)
  - Overall response rate: 62% (1693/2723)
  - Overall prevalence of burnout: 56%
  - Burnout did not differ by program size

• PRB-RSC 2017 Findings
  - 43 programs (23 with both peds and med-peds)
  - Overall response rate: 67% (2179/3273)
  - Overall prevalence of burnout: 55%
  - Burnout did not differ by program size
Demographics – 2016 Annual Survey

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>(n=1693)</th>
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<tbody>
<tr>
<td>Female</td>
<td>72%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>71%</td>
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<tr>
<td>Mean Age (SD)</td>
<td>29.3 (3.0)</td>
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<tr>
<td>Married/partnered</td>
<td>59%</td>
</tr>
<tr>
<td>Children</td>
<td>17%</td>
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<tr>
<td>Total educational debt &gt; US $100,000</td>
<td>62%</td>
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<tr>
<td>Live alone</td>
<td>30%</td>
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</table>

- No differences between residents who were vs. were not burned out
Resident Experiences and Burnout

<table>
<thead>
<tr>
<th>Resident experiences</th>
<th>No Burnout (n=750)</th>
<th>Burnout (n=940)</th>
<th>p-value</th>
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<tr>
<td>Current rotation</td>
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<td>ICU/ER/Inpatient</td>
<td>41%</td>
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<td>39%</td>
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</tr>
<tr>
<td>Other</td>
<td>13%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Last vacation (&lt; 1 months ago)</td>
<td>25%</td>
<td>20%</td>
<td>0.013</td>
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<tr>
<td>Last full weekend off (1 week ago)</td>
<td>51%</td>
<td>39%</td>
<td>0.001</td>
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<tr>
<td>Major Medical Error in last 3 months</td>
<td>11%</td>
<td>24%</td>
<td>0.001</td>
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<tr>
<td>Sleepiness (Epworth Sleep Scale)</td>
<td>8.7</td>
<td>10.6</td>
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</table>
# Resident Personal Attributes and Burnout

<table>
<thead>
<tr>
<th>Resident Personal Attribute</th>
<th>Scale Score Range</th>
<th>No Burnout (n=750)</th>
<th>Burnout (n=940)</th>
<th>p-value</th>
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<tbody>
<tr>
<td>Physical Health (PROMIS) Score</td>
<td>16-68</td>
<td>47.4</td>
<td>47.4</td>
<td>0.924</td>
</tr>
<tr>
<td>Mental Health (PROMIS) Score</td>
<td>21-68</td>
<td>47.0</td>
<td>43.7</td>
<td>&lt;0.001</td>
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<tr>
<td>Mindfulness (CAMS-R) Score</td>
<td>4-40</td>
<td>30.2</td>
<td>26.5</td>
<td>&lt;0.001</td>
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<tr>
<td>Self-Compassion (Neff’s) Score</td>
<td>1-5</td>
<td>3.4</td>
<td>2.9</td>
<td>&lt;0.001</td>
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<tr>
<td>Resilience (BRS) Score</td>
<td>1-5</td>
<td>3.8</td>
<td>3.5</td>
<td>&lt;0.001</td>
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<tr>
<td>Calm &amp; Compassionate Care Scale Score</td>
<td>0-100</td>
<td>65.5</td>
<td>58.4</td>
<td>&lt;0.001</td>
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<tr>
<td>Empathy (IRI-Perspective Taking) Score</td>
<td>0-28</td>
<td>19.2</td>
<td>18.3</td>
<td>&lt;0.001</td>
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<td>Empathy (IRI-Empathetic Concern) Score</td>
<td>0-28</td>
<td>23.3</td>
<td>21.8</td>
<td>&lt;0.001</td>
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<td>Stress (Cohen’s Scale) Score</td>
<td>0-40</td>
<td>12.8</td>
<td>18.7</td>
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</table>
Resident Associations with Burnout

- Perceived Stress (1 SD increase)
- Last weekend off 4+ weeks ago (vs. last week)
- White race (vs. non-White)
- Mental Health (PROMIS, 1 SD increase)
- Calm Compassionate Care (1 SD increase)
- Self-Compassion (Neff, 1 SD increase)
- Empathic Concern (IRI, 1 SD increase)
PRB-RSC Demographics 2016 vrs 2017
PRB-RSC Burnout – Categorical Pediatrics by Training Year 2016 vrs 2017

Pediatrics

Medicine- Pediatrics
PRB-RSC Program Reports

Pediatric Resident Burnout – Resilience Study Consortium
Program Data Report for: PROGRAM NAME

Survey Response Rate: All Programs: 66%; Range 22-100%; Your Program: XX%

In the below figures, a resident is defined as burned out if they scored high on the emotional exhaustion and/or depersonalization scale. Data in this report is suppressed for categories that include fewer than 4 residents.

Residents Experiencing Burnout by Program Type

Residents Experiencing Burnout by Training Year
# PRB-RSC Program Reports

<table>
<thead>
<tr>
<th>Measure</th>
<th>ALL PROGRAMS (34)</th>
<th>YOUR PROGRAM</th>
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<tr>
<td></td>
<td>MEAN</td>
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<td>Maslach Burnout Inventory: Emotional Exhaustion Scale</td>
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<tr>
<td>PEDS</td>
<td>26.29</td>
<td>26.00</td>
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<tr>
<td>MED PEDS</td>
<td>26.80</td>
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<td>Maslach Burnout Inventory: Depersonalization Scale</td>
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<td>PEDS</td>
<td>10.22</td>
<td>9.60</td>
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<td>12.13</td>
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<td>Maslach Burnout Inventory: Personal Accomplishment Scale</td>
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<td>PEDS</td>
<td>12.14</td>
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<td>MED PEDS</td>
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<td>Physical Health Scale</td>
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<td>PEDS</td>
<td>49.34</td>
<td>50.80</td>
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<td>Mental Health Scale</td>
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<td>PEDS</td>
<td>45.17</td>
<td>45.80</td>
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<td>Perceived Stress Scale</td>
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<td>Hatch Spirituality – Prayed during the last week</td>
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<td>Hatch Spirituality – Meditated during the last week</td>
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<td>Hatch Spirituality – Spiritual activities with other person in last week</td>
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<tr>
<td>Mindfulness Training</td>
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<tr>
<td>PEDS</td>
<td>Some Mindfulness Training 49%</td>
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<tr>
<td>MED PEDS</td>
<td>Some Mindfulness Training 58%</td>
<td>Some Mindfulness Training 57%</td>
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</table>
Future Developments

Research/Scholarship

- Wilson P. 2016 Program Wellness Interventions - accepted
- Batra M. 2016 Burnout in Pediatric Residents – TBS
- Reed S. 2016 Predictors of Burnout – submitted
- Staples B. Burnout Impact on Performance (Milestones) – TBS
- Mahan J. Resilience in Pediatric Residents – TBS
- Schwartz A. Key Burnout Questions in Pediatric Residents – TBS

Member Initiated Projects – New Mechanism

- Sox C. Mindfulness in Pediatric Residents – under review
- Pitt M. Spirituality in Pediatric Residents – under construction
- You ?????????
Future Developments

- Program Director Reports

- Interventional Trials
  - 2018-2019 – Call for Proposals this Fall
    - Number to approve?
  - Participation offered to PRB-RSC sites
    - Willingness to sign on!
Resident Wellness Interventions

Existing Evidence

- Scare
- Intervention Studies Support
  - Organizational/System
    - Modify clinical work processes
  - Individual
    - Self-Care (sleep, diet, exercise, support)
    - Mindfulness
      - Meditation
      - Yoga
    - Stress Management

Opportunities

West C. Lancet 2016
## Participating Institutions

### 2016 and 2017; 2016 only; 2017 only

<table>
<thead>
<tr>
<th>Institution</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Albert Einstein College of Medicine</td>
<td>U of California Davis</td>
</tr>
<tr>
<td>Baylor College of Medicine/Texas Children’s Hospital</td>
<td>U of California Los Angeles/Mattel Children’s</td>
</tr>
<tr>
<td>Boston Children’s Hospital</td>
<td>U of California San Diego/Rady Children’s</td>
</tr>
<tr>
<td>Carolinas Medical Center</td>
<td>U of Chicago/ Corner Children’s Hospital</td>
</tr>
<tr>
<td>Case Western/Rainbow Babies and Children's Medical Center</td>
<td>U of Cincinnati/Cincinnati Children’s</td>
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<td>Crozer-Chester Medical Center</td>
<td>U of Colorado/Denver Children's</td>
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<tr>
<td>Dartmouth</td>
<td>U of Florida/Shands Hospital</td>
</tr>
<tr>
<td>Drexel/St Christopher’s</td>
<td>U of Illinois - Chicago</td>
</tr>
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<td>Duke U</td>
<td>U of Indiana</td>
</tr>
<tr>
<td>Inova Fairfax Medical Campus</td>
<td>U of Kansas</td>
</tr>
<tr>
<td>Jefferson Medical College/duPont Hospital for Children</td>
<td>U of Louisville</td>
</tr>
<tr>
<td>Johns Hopkins U</td>
<td>U of Michigan</td>
</tr>
<tr>
<td>Louisiana State U</td>
<td>U of Minnesota</td>
</tr>
<tr>
<td>Maine Medical Center</td>
<td>U of New Mexico</td>
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<tr>
<td>Mayo Clinic College of Medicine</td>
<td>U of Oklahoma - Oklahoma City</td>
</tr>
<tr>
<td>Medical College of Wisconsin</td>
<td>U of Oklahoma - Tulsa</td>
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<tr>
<td>New York Presbyterian/Cornell</td>
<td>U of Pennsylvania/Children's Philadelphia</td>
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<tr>
<td>Northwestern U/Lurie Children's</td>
<td>U of Pittsburgh</td>
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<tr>
<td>Ohio State U/Nationwide Children's</td>
<td>U of South Alabama</td>
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<tr>
<td>Rush U</td>
<td>U of Washington/Seattle Children's</td>
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<td>Tufts Medical Center</td>
<td>U of Wisconsin</td>
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<tr>
<td>U of Alabama</td>
<td>Virginia Tech – Carilion</td>
</tr>
<tr>
<td>U of Arizona</td>
<td>Wright State</td>
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<tr>
<td><strong>Last vacation (months ago)</strong></td>
<td></td>
<td></td>
<td><strong>0.013</strong></td>
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<tr>
<td>&lt;1</td>
<td>25%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>38%</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>4-6</td>
<td>25%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>7-9</td>
<td>9%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>&gt;9</td>
<td>3%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td><strong>Last full weekend off (weeks ago)</strong></td>
<td></td>
<td></td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td>1</td>
<td>51%</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>20%</td>
<td>22%</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15%</td>
<td>16%</td>
<td></td>
</tr>
<tr>
<td>4+</td>
<td>14%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td><strong>Sleepiness (Epworth Sleep Scale)</strong></td>
<td><strong>8.7</strong></td>
<td><strong>10.6</strong></td>
<td><strong>0.001</strong></td>
</tr>
<tr>
<td><strong>Major Medical Error in last 3 months</strong></td>
<td><strong>11%</strong></td>
<td><strong>24%</strong></td>
<td><strong>0.001</strong></td>
</tr>
</tbody>
</table>
SLEEP
Sleep (deprivation) physiology

As a kid, I considered bedtime to be a punishment. Today it feels more like winning the lottery.
What is the average number of hours of sleep that you get/night?

- 9 hours/night or more
- 8 hours/night
- 7 hours/night
- 6 hours/night
- 5 hours/night or less

Start the presentation to activate live content. If you see this message in presentation mode, install the add-in or get help at PollEv.com/app
## National Sleep Foundation: Average recommended nightly hours of sleep

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Hours/night</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young adult (18-25 yrs)</td>
<td>7-9</td>
</tr>
<tr>
<td>Adult (26-64 yrs)</td>
<td>7-9</td>
</tr>
<tr>
<td>Older adult (&gt; 65 yrs)</td>
<td>7-8</td>
</tr>
</tbody>
</table>

Hirschkowitz et al. Sleep Health. 2015
### Gallup poll 2013

40% of adults get less than 7 hours of sleep/night

<table>
<thead>
<tr>
<th>Usually, how many hours sleep do you get at night?</th>
<th>1942</th>
<th>1990</th>
<th>2001</th>
<th>2004</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Five hours or less</td>
<td>3</td>
<td>14</td>
<td>16</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Six hours</td>
<td>8</td>
<td>28</td>
<td>27</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>Seven hours</td>
<td>25</td>
<td>30</td>
<td>28</td>
<td>28</td>
<td>25</td>
</tr>
<tr>
<td>Eight hours</td>
<td>45</td>
<td>22</td>
<td>24</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Nine hours or more</td>
<td>14</td>
<td>5</td>
<td>4</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td><strong>NET:</strong> Six hours or less</td>
<td>11</td>
<td>42</td>
<td>43</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td><strong>NET:</strong> Seven hours or more</td>
<td>84</td>
<td>57</td>
<td>56</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>Average hours per night</td>
<td>7.9</td>
<td>6.7</td>
<td>6.7</td>
<td>6.8</td>
<td>6.8</td>
</tr>
</tbody>
</table>

GALLUP
Acute consequences of sleep loss

- Slowed RT
- Attention Deficits
- Reduced Alertness
- Learning Impairment
- Errors of Omission
- Errors of Commission
- Memory Impairment
- Microsleeps
- Behavioral Disinhibition
- Reduced Creativity
- Emotional Lability
- Impaired Problem Solving
- Perseveration
- Reduced Motivation
- Impaired Mood
Long-term consequences of chronic sleep restriction

• Sleepiness

• Cognitive function
  • Impairment in performance
    • Mistakes
    • Safety
    • Productivity

• Health risks
  • Heart disease, dysrhythmias, HTN
  • Metabolic syndrome/obesity/diabetes
  • Mood disorder/depression
  • Dementia/Alzheimer’s
  • Cancer
  • Mortality
Two process model of acute total sleep deprivation

https://smoens.files.wordpress.com/2010/12/class1_sleephomeostasis31.jpg
Sleep deprivation impairs cognitive function

• Lapse hypothesis
  • Microsleeps
  • Decreased alertness and attention

• Selective impact
  • “Prefrontal vulnerability hypothesis
    • Language, executive functions, divergent thinking and creativity
    • Simple task performance impaired by boredom

Extended wakefulness impairs performance (Why 16 hrs?)

Performance on spatial PVT with extended wakefulness

Why 16 hrs?

Performance on spatial PVT with extended wakefulness

Performance over 84 hrs of sleep deprivation

From: Wesensten et al., 2005
High risk times of day for MVAs due to drowsy driving

Pack et al/ Accid Anal Prev 1995

Driving home post-call
Performance over 84 hrs of sleep deprivation

From: Wesensten et al., 2005
How long of a recovery period after extended call (14 hrs)?

After 24 hr SD – need at least 9 hours of recovery sleep

Jay et al. *Sleep* 2007
Chronic sleep deprivation: Why need protected time in between shifts?

Need 7-8 hrs to prevent chronic partial sleep deprivation

Banking sleep: it works!

Extended (10 hrs/night for 7 nights)
Habitual for 7 nights
Night shift: why tough on sleep?

- Decreased sleep duration during the day
- Reduced performance
- Increased risks at night (safety, errors)
- Worse with backward rotation (start earlier each day)
- Needs more time for recovery (ie 3-4 days)

- Better with prophylactic naps and adequate recovery sleep

Sleep inertia: it is real

Fallacies about sleep deprivation

• Periods of sleep deprivation make you more tolerant to the effects of subsequent sleep deprivation
  • You learn to be a better (sleep deprived) attending by going through sleep deprivation as a trainee

• Younger individuals are more resistant to the effect of sleep deprivation than older individuals

• You can accurately tell how impaired you are when you are sleep deprived

• SLEEPY DRIVING- open windows, music, AC, chewing gum help keep you awake when drowsy
Sound familiar?

https://www.youtube.com/watch?v=q4WO_Ri82tI
The Scope of the Problem

“... I always had a prior theory that when you look up all the old sixties research how do you brainwash someone? You sleep deprive them. That’s number one, two, and three. Sleep deprive them. You feed them bad food and you repeat things over and over again. It’s like that kind of covers residency.”
How impaired are we?

- Residents working a “heavy call” rotation (80-90h/week) with a placebo

  *compared to*

  Residents working a light rotation (40-50h/week) with a blood alcohol level 0.04-0.05%

- Outcome measures
  - Psychomotor vigilance test
  - Continuous performance test
  - Simulated driving test
Intervalle de temps: Variable
How impaired are we?

Table 3. Performance Measures in the 4 Experimental Conditions

<table>
<thead>
<tr>
<th>Performance Task</th>
<th>Light Call</th>
<th>Light Call With Alcohol</th>
<th>Heavy Call</th>
<th>Heavy Call With Placebo</th>
<th>Condition Effect*</th>
<th>Light Call With Alcohol vs Heavy Call With Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychomotor Vigilance Task (n = 27)</td>
<td>225.9 (4.0)</td>
<td>248.4 (7.0)</td>
<td>242.5 (6.1)</td>
<td>242.3 (5.0)</td>
<td>&lt;.001</td>
<td>.19†</td>
</tr>
<tr>
<td>Median reaction time, mean (SE), ms</td>
<td>0 (0-3)</td>
<td>0 (0-13)</td>
<td>1 (0-9)</td>
<td>1 (0-7)</td>
<td>NA</td>
<td>.21‡</td>
</tr>
<tr>
<td>No. of lapses, median (range)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous Performance Test (n = 33), %</td>
<td>27.2 (2.8)</td>
<td>46.5 (3.6)</td>
<td>38.2 (3.3)</td>
<td>40.6 (3.2)</td>
<td>&lt;.001</td>
<td>.02†</td>
</tr>
<tr>
<td>Commission errors, mean (SE)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
<td>.18‡</td>
</tr>
<tr>
<td>Omission errors, median (range)</td>
<td>0.0 (0.0-26.8)</td>
<td>0.3 (0.0-3.3)</td>
<td>0.3 (0.0-59.3)</td>
<td>0.7 (0.0-33.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simulated driving task (n = 34)</td>
<td>5.5 (0.2)</td>
<td>6.2 (0.2)</td>
<td>7.0 (0.4)</td>
<td>6.8 (0.3)</td>
<td>&lt;.001</td>
<td>.06†</td>
</tr>
<tr>
<td>Lane variability, mean (SE), ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Speed variability, mean (SE), mph$</td>
<td>2.4 (0.3)</td>
<td>3.2 (0.5)</td>
<td>4.1 (0.5)</td>
<td>4.2 (0.4)</td>
<td>&lt;.001</td>
<td>.01†</td>
</tr>
<tr>
<td>No. of off-road incidents, median (range)</td>
<td>0 (0-3)</td>
<td>1 (0-6)</td>
<td>1 (0-23)</td>
<td>1 (0-16)</td>
<td>NA</td>
<td>.55‡</td>
</tr>
</tbody>
</table>

Abbreviation: NA, not applicable.
*Based on training year (interns vs second-year residents and third-year residents) x condition (light call, light call with alcohol, heavy call, heavy call with placebo) mixed repeated measures analysis of variance. There were no significant training year x condition interactions.
†Based on post hoc paired t tests.
‡Based on paired McNemar tests.
§Analysis of variance conducted on transformed speed variability using the transformation log (x).

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(Reprinted) JAMA, September 7, 2005—Vol 294, No. 9 1029

Arnedt et al. 2005
We don’t know when we’re sleepy

- Anesthesia residents test post-call
  *Sleep latency test, monitored with EEG*

- Outcome measures
  - Sleep
  - Perceived sleep (“did you fall asleep”)

Residents were wrong 76% of the time when they reported having stayed awake.

Howard et al. Acad Med 2002
Do we make more medical errors?

- Medicine interns working q3h call, max length 34h, average 77-81 hours/week in the hospital

  compared to

  Medicine interns working shift schedule, max length 16h, average 60-63 hours/week in the hospital

No change to R2 or R3 supervisor schedules

Some improvements to signout process because the schedule changed.

Landrigan et al. NEJM 2004
### Table 3. Incidence of Serious Medical Errors.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Traditional Schedule</th>
<th>Intervention Schedule</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>no. of errors</strong> (rate/1000 patient-days)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious medical errors made by interns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious medical errors</td>
<td>176 (136.0)</td>
<td>91 (100.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Preventable adverse events</td>
<td>27 (20.9)</td>
<td>15 (16.5)</td>
<td>0.21</td>
</tr>
<tr>
<td>Intercepted serious errors</td>
<td>91 (70.3)</td>
<td>50 (55.0)</td>
<td>0.02</td>
</tr>
<tr>
<td>Nonintercepted serious errors</td>
<td>58 (44.8)</td>
<td>26 (28.6)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Types of serious medical errors made by interns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medication</td>
<td>129 (99.7)</td>
<td>75 (82.5)</td>
<td>0.03</td>
</tr>
<tr>
<td>Procedural</td>
<td>11 (8.5)</td>
<td>6 (6.6)</td>
<td>0.34</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>24 (18.6)</td>
<td>3 (3.3)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Other</td>
<td>12 (9.3)</td>
<td>7 (7.7)</td>
<td>0.47</td>
</tr>
</tbody>
</table>
What about surgical tasks?

Taffinder et al. 1998
Surgical complications

- Attending surgeons operating during the day, after having operated at least part of the prior night
  
  *compared to*

  Same physician performing same procedure without having operated the prior night

- Overall, no difference

  But… the sub-group who had less than 6 hours sleep opportunity had more complications

Rothschild et al. JAMA 2009
<table>
<thead>
<tr>
<th>No. of Hours</th>
<th>No. of Procedures With Complications/ Total No. of Procedures (%)</th>
<th>Adjusted OR (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Duration of sleep opportunity</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-6 Operating room</td>
<td>62/728 (8.5)</td>
<td>2.70 (1.13-6.48)</td>
<td>.03</td>
</tr>
<tr>
<td>&gt;-6 Operating room</td>
<td>6/191 (3.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-6 L/D</td>
<td>20/589 (3.4)</td>
<td>0.96 (0.47-1.95)</td>
<td>.91</td>
</tr>
<tr>
<td>&gt;-6 L/D</td>
<td>13/368 (3.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-6 All</td>
<td>82/1317 (6.2)</td>
<td>1.72 (1.02-2.89)</td>
<td>.04</td>
</tr>
<tr>
<td>&gt;-6 All</td>
<td>19/559 (3.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Duration of extended work shift</strong>&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 Operating room</td>
<td>24/398 (6)</td>
<td>1.35 (0.78-2.38)</td>
<td>.27</td>
</tr>
<tr>
<td>&gt;-12 Operating room</td>
<td>44/521 (8.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 L/D</td>
<td>15/520 (2.9)</td>
<td>1.45 (0.72-2.94)</td>
<td>.30</td>
</tr>
<tr>
<td>&gt;-12 L/D</td>
<td>18/437 (4.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12 All</td>
<td>39/918 (4.3)</td>
<td>1.47 (0.96-2.27)</td>
<td>.08</td>
</tr>
<tr>
<td>&gt;-12 All</td>
<td>62/958 (6.5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: CI, confidence interval; L/D, labor/delivery; OR, odds ratio.

<sup>a</sup>Odds ratios are adjusted for patient age, comorbidities, and sex.

<sup>b</sup>Duration of sleep opportunity is calculated as the interval of hours between end of last overnight procedure and start of first morning procedure.

<sup>c</sup>Duration of extended work shift is calculated as the interval of hours between start of first overnight procedure and end of each daytime procedure. For multiple or consecutive daytime procedures on the same day following an overnight procedure, each daytime procedure is associated with a unique and increasingly longer work duration.

Rothschild et al. JAMA 2009
We also hurt ourselves

- Interns working >24 hours have higher odds of:
  - Crashing their cars when driving home after work  OR 2.3 (1.6-3.3)
  - Near miss accidents OR 5.9 (5.4-6.3)
  - Needlesticks OR 1.6 (1.5-1.8)
    - More common at night OR 2.0 (2.0-2.1)

Barger et al. NEJM 2005
Ayas et al. JAMA 2006
Are you convinced that we have a problem?

What if it were your loved one?
If you see this message in presentation mode, install the add-in or get help at PollEv.com/app

Start the presentation to activate live content

It is assigned to do a lumbar puncture on you, which seems fine, but it's 5:30 am and you know toward the end of a 24-hour shift. You don't see a supervisor.

I wouldn't say anything, and would be comfortable

I wouldn't say anything, and would be uncomfortable

I would make sure he is directly supervised

I would ask for a well-rested physician to perform the LP

19% 38% 41%
There’s another side to this.
Duty hour restrictions alone are not the answer

- North Carolina Patient Safety Study
  - 2341 randomly selected admissions from 10 hospitals statewide
- No clear change in 30-day mortality or readmissions
- Some data suggest increase in self-reported errors
- You can’t force people to sleep

Landrigan et al. NEJM 2010
Patel et al. JAMA IM 2014
Sen et al. JAMA IM 2013
The FIRST trial

• Surgery residents working under current duty hour guidelines

compared to

Surgery residents working under flexible duty hour guidelines, still limited to 80 hours/week

• Overall, no difference in outcome measures
  – 30-day rate of postoperative death or serious complications (primary outcome)
  – Other postoperative complications
  – Resident perceptions and satisfaction

Bilimoria et al. NEJM 2016
The iCompare trial (*still in data collection*)

- Medicine residents working under current duty hour guidelines
  
  *compared to*

  Medicine residents working under flexible duty hour guidelines, still limited to 80 hours/week

- Outcome measures:
  - 30-day mortality (primary outcome)
  - Rates of prolonged LOS, total cost of care
  - Resident perceptions and satisfaction

Coming soon, Asch et al. NEJM? 2017?
So what does all this mean…

• We are less smart when we are sleep-deprived
• We make more medical errors when we are sleep-deprived
  • There are also data that more handoffs lead to more errors
So what does all this mean…

• We are less smart when we are sleep-deprived
• We make more medical errors when we are sleep-deprived
  • There are also data that more poor handoffs lead to more errors
• Patients probably have more surgical complications when we are sleep-deprived
• Impact on higher-level outcome measures such as take-backs, readmissions, mortality is less clear
## Systematic Review of Effects of Reducing or Eliminating Shifts >16h

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of studies with outcome</th>
<th>Significant improvement</th>
<th>No change</th>
<th>Significant decrement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident Quality of Life</td>
<td>8</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Resident Education</td>
<td>14</td>
<td>4</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Patient Safety/Quality</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>1(?)</td>
</tr>
</tbody>
</table>

Modified from Levine. Sleep 2010; 33: 1043-1053; Rosenbluth et al. 2013
Management and mitigation

• Optimize sleep environment
  • Dark, cool, quiet
  • Use bedroom primarily for sleep
• Minimize alcohol (lighter, less-restorative sleep)
• Exercise
• Sleep before and after call
• Sleep schedule
  • Enlist family, use technology
Minimize smartphone use at night?

- Night mode
- Blue-light filters

But, the light may help wake you up when talking to people.
Cues to inadequate sleep

• Falling asleep in conferences or on rounds
• Feeling restless and irritable with staff, colleagues, family, and friends
• Having to check your work repeatedly
• Having difficulty focusing on the care of your patients
• Feeling like you really just don’t care

• Sleeping very late on weekends
• Catching up on sleep during vacation
Napping

• Timing
  • Take advantage of circadian rhythms (2-5am, 2-5pm)
  • Beware of sleep inertia – allow recovery time!
  • Anything is better than nothing
  • Not a replacement for sleep
References


Fatigue Risk Management Plan
Fatigue Risk Management Plan (FRMP)

A scientifically based, data-driven addition or alternative to prescriptive hours of work limitations which manages employee fatigue in a flexible manner appropriate to the level of risk exposure and the nature of the operation.

Lerman et al. JOEM 2012
Components of a FRMP

- Fatigue management policy
- Fatigue risk management, including collecting information on fatigue as a hazard, analyzing its risk, and instigating controls to mitigate that risk
- Fatigue reporting system for employees
- Fatigue incident investigation
- Fatigue management training and education for employees, management (and families)
- (Sleep disorder management)
- A process for the internal and external auditing of the FRMP that delivers corrective actions through a continuous improvement process

Lerman et al. JOEM 2012
Key tenets

• The organization and employee share responsibility for preventing fatigue.
• The organization is responsible for systematic support of alertness.
• Given adequate time away from work, employees are responsible for making arrangements to get enough sleep.
Fatigue risk trajectory

Hazard assessment
- Sleep opportunity/ Average sleep obtained
- Actual sleep obtained
- Behavioral symptoms
- Fatigue-related errors
- Fatigue-related incidents

Error Trajectory
- Level 1
- Level 2
- Level 3
- Level 4
- Level 5 Actual Incident

Control Mechanism
- Prescriptive HOS rules
- Aggregate PSWM
- Fatigue Modeling
- Prior Sleep and Wake data
- Symptom Checklists
- Self-report behavioral scales
- Physiological monitoring
- Fatigue proofing strategies
- SMS Error analysis system
- SMS Incident analysis system

PSWM- prior sleep wake monitoring
HOS- hrs of service
SMS- safety management system

Dawson and McCulloch. Sleep Med Rev 2005
Five key defenses of a fatigue risk management system

Sufficient staffing

Moore-Ede et al. International Conference on Fatigue Management in Transportation 2009
Five key defenses of a fatigue risk management system

Fatigue optimization scheduling

- FAST/SAFTE models
- calculation of predicted performance during shifts
  - wake/rest schedules, sleep quantity, sleep quality, time zone, geographic changes, and sunlight exposure

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Mean Daily Effectiveness at Work</th>
<th>Mean Daily Effectiveness While Awake</th>
<th>P Value (Compared to Day Shift)</th>
<th>Time at Work With Effectiveness Score &lt;70, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day shift</td>
<td>90.32</td>
<td>89.32</td>
<td>...</td>
<td>0</td>
</tr>
<tr>
<td>Trauma</td>
<td>81.97</td>
<td>82.51</td>
<td>&lt;.001</td>
<td>75</td>
</tr>
<tr>
<td>“Old school” (Q3)</td>
<td>78.37</td>
<td>79.20</td>
<td>&lt;.001</td>
<td>23</td>
</tr>
<tr>
<td>Night shift</td>
<td>68.00</td>
<td>72.36</td>
<td>&lt;.001</td>
<td>50</td>
</tr>
</tbody>
</table>

Abbreviation: Q3, every third night.

McCormick et al. J Grad Med Ed. 2013
Five key defenses of a fatigue risk management system

Employee training and education: components

- Hazards of working while fatigued and the benefits of being well rested
- Impact of chronic fatigue on personal relationships, mental/physical well-being, as well as general life satisfaction
- Recognizing that although fatigue cannot be eliminated, it can be managed and minimized
- Adequate quantity and quality of sleep is key to managing fatigue
- Basics of sleep physiology, circadian rhythms, and what is getting adequate sleep
- Sleep hygiene—how to obtain adequate quantity and quality of sleep
- Sleep disorders—why they matter, how to tell if one may have one, and what to do about it
- Importance of diet, exercise, stress management, and management of other health conditions that affect fatigue, as well as information about how to address these issues
- How to recognize fatigue in oneself or one’s coworkers
- Alertness strategies to be used while at work such as appropriate use of caffeine, rest or exercise breaks, and social interactions
- Advice on managing personal relationships for shift workers
Sleep disorder

• Screening
• Treatment and adherence
Five key defenses of a fatigue risk management system

Work environment

- The work environment should be designed to promote alertness
  - Light, temperature, humidity, noise
  - Light
    - Day-shift
    - Bright night-shift lighting
- Schedule critical tasks at times of maximal alertness
  - Danger times: end of any shift, early afternoon, and early hours of the morning
- Breaks for exercise, conversation, and/or naps

Lerman et al. *JOEM* 2012
Five key defenses of a fatigue risk management system

- **Defense 1:** Sufficient Staffing Levels
  - Goals: Workload-Staffing Balance
  - Actions: Proportional 24/7 staffing
  - Metrics: Staffing Imbalance

- **Defense 2:** Sufficient Sleep Opportunity
  - Goals: Shift / Duty scheduling, Overtime policies, Fatigue risk models
  - Actions: Schedule Driven Fatigue Risk
  - Metrics: Work hrs

- **Defense 3:** Sufficient Sleep Obtained
  - Goals: Employee training, Sleep disorder treatment & compliance
  - Actions: Sleep Deprivation Lifestyle stress

- **Defense 4:** Sufficient Workplace Environment
  - Goals: Workplace design, Light color filtering, Rest policies
  - Actions: Workplace Environment Fatigue

- **Defense 5:** Sufficient Alertness Behavior
  - Goals: Peer monitoring, Fitness for duty audit, Alertness monitoring
  - Actions: Fatigue-related Errors

Fatigue Risk Root Cause Analysis

Individual risk assessment and mitigation

• Employees, coworkers, and supervisors should be alert to signs of excess fatigue

• Supervisors should have the responsibility and authority to mitigate the fatigue or the safety risk of the fatigue
  • include immediate actions such as encouraging a rest break

• Fatigue monitoring devices?
Fatigue detection technology

Dinges et al. *J Transportation Res Board*, 2005
System-based approach

- Increase # fellows
- Faculty w/o fellow?
- More fellows for “busy” season
- Stop frontloading of clinical work
- Limit # mo on service
- More respite during wk
- Better education
- Better education
- Better education
- Screening
- Rest policies
- Bed available
- Buddy system?
- PVT

ACTIVITY
• How can you improve fatigue management in your program?
• What components of FRMP can you use?
• What are barriers and how can you overcome them?
Sublimating self-interest v. personal well-being

Challenges in 24/7 society
Work-life integration

• Challenges?
Culture of immediacy

• Inpatient
• Outpatient
• At-home call
Evidence for Supporting Trainee, Faculty and Staff Wellness
Physician Burnout

- Physician burnout: negatively impacts workforce and patient care
  - 46% US physicians experience symptoms of burnout
  - Increased rates of medical errors, malpractice risk, physician turnover, and increased start up/ramp up cost
  - Increased rates of suicide, suicidal ideation, substance abuse, strained interpersonal relationships
  - Decreased patient satisfaction scores, reduced adherence to treatment plans
  - Physician and staff (nurses etc.) dissatisfaction feed on each other
  - Contributes to early retirement or leaving the profession altogether which exacerbates physician shortages around the country

“Medical training has historically acculturated physicians to deny their own self-care in the service of others.”
Burnout in Pediatric Residents

• Previous studies showed variation in rates of burnout in trainees (40%–75%) based on program and year of training
• Baer et al
  • No significant differences in burnout rates based on sex, race/ethnicity, and relationship or parental status
  • Residents <30 years of age less likely to report burnout
  • Residency factors (year of training, program size, location, current rotation schedule, hours worked in past week) not associated with burnout
  • Direct correlation between sleep deprivation and burnout
  • Specific characteristics (compassion, altruism, perfectionism) predispose trainees to burnout when pushed to mental or physical extremes

The Case For Wellness

• World Health Organization’s definition of health: “an optimal state of physical, mental, and social well-being”
  • Physician health and well-being is NOT just the absence of burnout
  • “Professionally fulfilled physicians...are better equipped not only to practice the art and science of clinical care, but also to lead the effort to identify and implement much-needed improvements to our systems of care.”

Breakout Session (15 minutes)

At your tables, discuss potential strategies for:

• Supporting trainees
• Allowing them to meeting their personal needs (doctor’s visits etc.)
  • How do you balance clinical responsibilities and avoiding the unintended consequence of burdening others
The Reciprocal Domains of Physician Well-Being

Chart illustrating the 3 domains of physician well-being, with each domain reciprocally influencing the others.

Source: Patty Purpur de Vries
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NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society
Efficiency of Practice

Value-added clinical work

Time and energy spent

Contributing factors: workplace systems, processes, and practices that assist physicians and teams in provision of compassionate, evidence-based care.
Efficiency of Practice

Things to target

• Address chaotic work environments, unreasonable time pressures
• Improve care processes and clinical workflows
• Usability of electronic medical records
• Adequate staffing (allowing physicians to focus on work for which they are uniquely trained)
• Mitigating regulatory and documentation burdens
• Maximizing user-friendly decision support
• Facilitating reliable care coordination

Why does this matter

• Not only important for trainees but this will allow attendings to make time for teaching, feedback and enhanced engagement with trainees!
Culture of Wellness

“Set of normative values, attitudes, and behaviors that promote self-care, personal and professional growth, and compassion for colleagues, patients, and self”
Culture of Wellness

• Building blocks: It starts at the top with leadership!
  • Paradigm shift: rejection of “iron doc” culture
  • Expectation that physicians attend to their own well-being: self-care as a professional core competency
    • Dispel myth that self-care and patient care are competing interests
  • Promote and building a culture of appreciation, support, compassion and community
    • Peer support programs that train clinicians to provide emotional support to colleagues
    • Promote a safety culture that is not perceived as punitive
Culture of Wellness

• Must be action-oriented
  • Trainee-led wellness committees
  • Planned activities that are financially supported by GME/ Hospital
  • Must include support for coordinators and administrative staff
Personal Resilience

“The set of individual skills, behaviors, and attitudes that contribute to personal physical, emotional, and social well-being — including the prevention of burnout”
Personal Resilience

• **Individual strategies**
  • Optimal nutrition, exercise, sleep
  • Engaging in mindfulness-based stress reduction and compassion cultivation

• **Organizational strategies**
  • Limiting work hours (for physician trainees and other busy clinicians)
  • Providing convenient access to low-cost or free healthy food
  • Providing on-site exercise facilities
  • Providing space for decompression during on-call, overnight, or long-shift responsibilities
Institutional Models for Wellness
Stanford Medicine WellMD Center

WELLMD

Doctors who take care of themselves:

- Are better role models for their patients.
- Are better role models for their children.
- Have higher patient satisfaction and safety scores.
- Experience less stress and burnout.
- Live longer.

Use this Web site to find what works for you.

http://wellmd.stanford.edu/
The Stanford Medicine WellMD Center was created in late 2015 with 5 year funding provided jointly by the School of Medicine, Stanford Health Care and Stanford Children's Health. Contact: wellmdcenter@stanford.edu

Mission Statement:
"To improve the health and professional fulfillment of physicians and the associated health of their patients, their students, and other members of the medical teams they lead."

Vision:
Stanford Medicine will demonstrate the value of strategic investment in physician health to its missions of medical care, teaching and research.

Vision achievement - by creating a governance structure with accountability and resource commitment, and by emphasizing the need for scholarship to research the connection between physician health and system outcomes, our strategy for achieving our vision will address the domains of our WellMD Professional Fulfillment Model:

- Culture of Wellness
  Organizational work environment, values and behaviors that promote self-care, personal and professional growth, and compassion for ourselves, our colleagues and our patients.
- Efficiency of Practice
  Workplace systems, processes, and practices that promote safety, quality, effectiveness, positive patient and colleague interactions, and work-life balance.
- Personal Resilience
  Individual skills, behaviors, and attitudes that contribute to physical, emotional, and professional well-being.
WellMD Center Organizational Chart

- Chris Dawes, MBA
  CEO, Stanford Children’s Health

- Lloyd Minor, MD
  Dean, School of Medicine

- David Entwistle, MHSA
  CEO, Stanford Health Care

- Tait Shanafelt, MD
  WellMD Center Director

- CMO
  Denny Lund, MD

- CMO
  Norm Rizk, MD

- Physician Wellness Committee

- Mary Lou Murphy, MS
  Administrative Director

- Mickey Trockel, MD
  Director of Scholarship & Health Promotion

- Patty Purpur de Vries, MS
  Director of Strategic Projects

- Maryam Hamidi, PhD
  Associate Director of Scholarship & Health Promotion

- Bryan Bohman, MD
  Senior Advisor

- Physician WellMD Advisory Council

Stanford Medicine
WellMD

http://wellmd.stanford.edu/content/dam/sm/wellmd/documents/CenterOrgChart9-17.pdf
Stanford Medicine WellMD Center

Physician Trainee Specific Projects

**Support Housestaff**
- HealthConnect 24/7 Phone Line (Mickey Trockel)
- House Staff Peer Support Program (Harise Stein)
- Initiatives for Health and Well-Being (Laurence Katznelson)

**Specific Department Programs**
- Anesthesia PRIME Program (Tara Cornaby, Ravi Prasad)
- Surgery Balance in Life Program (Ralph Greco)
- Pediatrics Humanism and Wellness Program (Laura Bachrach)

**Support Medical Students**

**Offices/Committees**
- Office of Medical Student Wellness (Margaret Govea)
- Medical Student Life Advising Office (Rebecca Smith-Coggins)
- Respectful Educator and Student Mistreatment Committee (Rebecca Smith Coggins, James Lau)

**Mentoring**
- Educators for Care – E4C (Lars Osterberg)
- Ears 4 Peers (Rebecca Smith-Coggins)
- Reflection Rounds (Bruce Feldstein)
- Rathmann Fellows

**Ethics and Humanities Scholarly Concentration** (Audrey Shafer and Maren Grainer Monsen)
- Medical Student Sleep Project (Rebecca Smith-Coggins)

[https://wellmd.stanford.edu/center1/projects.html](https://wellmd.stanford.edu/center1/projects.html)
Peer Support Program

What is the Physician Peer Support Program?

In response to research showing that physicians are more likely to want to talk to a colleague about an adverse event than other types of confidants, in 2014 volunteer medical staff and house staff peer support programs were created.

Physicians are referred to the program after a difficult event occurs, or can self-refer at any time.

Look for email with Subject Line "Touching Base"

Involved doctors will receive an email or text from a peer supporter, inviting them, if they’d like, to chat informally either on the phone or in person.

Doctors who take advantage of this free service usually engage in one phone call. Follow-up later is always an option.

Q&A

Who are the peer supporters?
The peer supporters are trained volunteer faculty and house staff from both hospitals and throughout Stanford Healthcare. They are your colleagues.

Will our conversation be confidential?Yes, the supporters do not discuss your conversation with anyone else. The only caveat to confidentiality is if there is concern about your safety.

What does the supporter know about my situation?
The supporter is only given your name and contact email. They do not know any details of the case. Their focus is on your well being, not on analyzing the event.

So what do we talk about?
Supporters can help you be aware of how you’re coping and can provide perspective. It is often reassuring to know that all physicians have been or will be faced with these situations. Supporters can also suggest a variety of resources, depending on your needs.

What if I happen to know the peer supporter and I’d rather talk to someone more anonymously?
We try to match supporters by institution/entity, medicine or surgery, level of experience, and different service. You can always contact the program and ask for a different supporter for any reason.

Why talk to a peer supporter rather than a familiar colleague?

Familiar colleagues can be very helpful, but also consider:

- Peer supporters are trained for this situation with appropriate listening and responding skills, and are aware of what you might experience now and in the future.
- Supporters may be able to offer a fresh perspective.
- Since this program is a function of a committee of the medical staff office, conversations are legally protected. The supporters also do not take notes or discuss your conversation with anyone else.
- Supporters are aware of a variety of resources that might be helpful to you.
- Supporters have access to discrete 24/7 psych back-up to connect you to formal counseling as needed.
- Talking to someone who understands the pressures, but who doesn’t know you, may make the conversation easier.

CONTACT

medpeersupport@stanford.edu

http://wellmd.stanford.edu/get-help/peer-support.html
GME Mindfulness Tool

http://med.stanford.edu/gme/current_residents/mindfulness.html
Wellness

At Stanford and in our Pediatric Residency, we want to promote and foster a culture of wellness as well as help you develop your own personal skills, behaviors, and attitudes for your well-being.

Supportive activities and curriculum:

Class check in once a month morning reports

All residency check in once a month noon conferences

Wellness lunches to connect with your colleagues

Humanism curriculum noon conferences

Contacts:

Chief Residents

WellMD Mental Health Support for all

Peer support program after difficult clinical events

WellConnect for Housestaff

Confidential 24/7 phone line to establish timely mental health care: 650-724-1395

Stanford Express Care Clinic

RESILIENCY RESOURCES

Resilience

AAP Resilience Curriculum

Mindset by Carol Dweck

Mindfulness

Fatigue

GME-funded Uber rides when you are too tired to drive home

Medicine and the Muse, home for the arts and humanities at the medical school

Pegasus Physician writers

Stanford Medicine Music Network

Exercise and Fitness

Stanford gyms and pools

Resident Life

http://med.stanford.edu/peds/program-information/wellness.html
The Department of Pediatrics has created a Fellow Well-being Program to promote a culture of well-being.

The Program Includes:

- **Formal curriculum** focusing on self-care, resiliency, appreciation, fatigue mitigation, and stress management
- Skill building with **HealthySteps** focusing on breathing, movement, stress reduction, and compassion
- Exercise through the **Well Fellow 2017 Competition** (fellow-driven group and personal exercise competition)
- **Debriefs**: monthly sessions lead by the Palliative Care Team to target grief and stress
- **Food 4 Thought**: a quarterly confidential forum that is open to all fellows
- **Fellows’ Council**: fellow-run committee comprised of one fellow from every subspecialty to build community, act as a peer support group, and promote well-being and quality improvement activities
- **Big/Lil Sib**: first-year fellows are paired with a second or third-year fellow as a peer mentor and resource
- **Biannual Survey**: measuring fellow burnout, depression, sleep, fatigue, and overall well-being through surveys administered each August and February
Other Programs

• Mayo Clinic Department of Medicine: Program on Physician Well-being (2007)
  • http://www.mayo.edu/research/centers-programs/physician-well-being-program/overview

• Cleveland Clinic Wellness Institute and focus on decreasing physician burnout
  • https://consultqd.clevelandclinic.org/2017/07/desktop-medicine-physician-burnout/
Preparing Trainees For Life As An Attending
• We all used to think of residency as hard, and we held on to the hope that life would get better…

• This is not necessarily the reality

• How do we promote trainee wellness while appropriately preparing them for the next phase?
More On Resilience

• Often described as: Ability to successfully adapt when faced with trauma, adversity, tragedy or significant threat

• Resilience is:
  • ALWAYS contextual
  • A complex and dynamic interplay between an individual, the individual’s environment, and sociocultural factors
  • Not simply the absence of burnout but promotes dynamic thriving with full engagement

Balme, E; Gerada, C; Page, L.: Doctors need to be supported, not trained in resilience. BMJ Careers. 15 Sep 2015
More On Resilience

• Difficult to study
  • No consistent definitions; no standardized, valid, or reliable measurement
  • Limited studies regarding predictors of resilience and its relationship to better patient care

• Capacity for resilience may be innate; however, some evidence to suggest that it can be learned

Balme, E; Gerada, C; Page, L.: Doctors need to be supported, not trained in resilience. BMJ Careers. 15 Sep 2015
Factors That May Enhance Resilience

• Intellectual interest and professional satisfaction
• Self awareness and ability to be reflective
• Time management
• Continuing professional development
• Support (colleagues, family, friends)
• Strong mentorship

Balme, E; Gerada, C; Page, L.: Doctors need to be supported, not trained in resilience. BMJ Careers. 15 Sep 2015
Published Curricula on Building Resilience in Trainees

• Bird et al: Small group sessions focused on the following objectives
  • Define resilience and identify how it applies to adversities encountered during medical training.
  • Identify behaviors that promote resilience, including managing expectations, setting realistic goals, processing and letting go following medical errors, and finding gratitude.
  • Promote reflection on adversities, stressful situations, and medical errors.
  • Define a goal and an expectation, and identify the difference between them.
  • Identify how to deconstruct goals into realistic, measurable portions and how to consciously set expectations.
  • Identify healthy coping strategies after medical errors through active reflection that removes the “I” narrative.
  • Identify gratitude in daily life through the creation of gratitude lists and the practice of mental subtraction.
  • Provide a forum for medical trainees to discuss medical errors and adversities with their peers and faculty.

Systematic Support
From the Triple Aim to the Quadruple Aim

• Triple Aim - approach to optimizing health system performance by optimizing 3 dimensions of performance:
  • Population health
  • Patient experience of care
  • Healthcare costs

• Argument that a fourth aim—improving the work life of health care clinicians and staff—is paramount to optimizing the health system

What Is Our Role As Leaders?
Resources

- AAP resilience curriculum
- Civility, Respect, and Engagement at Work (CREW)
- The Pediatric Residency Burnout–Resilience Study Consortium: www.pedsresresilience.com

QUESTIONS
Thank You