SES092: ACGME Resident Wellness Data: Results from Five Years of Surveys

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Chicago, IL
Disclosures

• Dr. Baldwin, Jr., Dr. Rockey, and Mr. Yaghmour are all paid employees of the ACGME

• The ideas and opinions expressed are our own and may not reflect the position of the ACGME.
Recognition of all team members

Not pictured:
• Peyman Sardo
• Katie O’Brien
• Busra Karademir
• Patrick Ryan
• Steve Daugherty
Outline of Talk

• Historical context for research approach
• Origin of survey constructs
• Data highlights and implications
• Comments and questions
Career of a Battered Humanist

Age 22-39: Professional Preparation 17 yrs
1944 Chaplain/Trainee. Mass General Hospital
1945-49 Yale Medical School
1949-61 Two Residencies, Clinician, Teacher

Age 39-63: Educator and Administrator 24 yrs
1961-67 NIH Research Development Award, Harvard Medical School
1968-83 Founding faculty of five new medical schools
1983-85 College president

Age 63-present: Researcher in Medical Education 34 yrs
1985-2002. AMA Director of Education Research, Scholar
2002-2019. ACGME Senior Scholar-in-Residence

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Three questions as a framework

• How has GME changed over the past 75 years?

• How has Residency changed over the past 75 years?

• How have Residents changed over the past 75 years?
Yale Medical School: 1945-1949

• Class (40): mostly military; 4 women; 4 Jewish men; all white
• Science backgrounds; aiming toward medical practice
• Part-time Dean: Clinical Chairs in charge
• Sole criterion for graduation: National Boards = Essay Questions!
• Class attendance and course exams optional
• Few students, more teaching
• Lots of clinical responsibility, sub-internships, felt competent
Residency Training: 1949-52, 1957-61

- Internship: “Rotating”, “straight”, “mixed”. Individually arranged
- Residency: Pyramidal structure; Variable length, 3 year minimum
- Lots of teaching, daily bedside and specialty rounds, 3-6 month clinical rotations
- Patients on wards; longer stays; experienced nurses
- Duty every other night and weekend; “exhausted and engaged”.
- Lived in hospital (nurses dorm); $15 per month, food and laundry
- Several “solo” assignments 1st and 2nd year.
Changing Features of Residents’ Lifespace

• Until 1960’s, Largely male, white, single, lived in hospital, little or no compensation, long work hours. Good teaching, highly satisfied
• 1970s: more women, married, living outside, minimal salaries, increasing workload, Resident Activism, Unions, Strikes. Stress, depression, increasing complaints.
• 1980s: more IMG’s, increasing stress, work hours, workload, debt, moonlighting, impairment, substance abuse, mistreatment, Libby Zion, Salaries, Support Services, resident representation
• 1990s: work hours, sleep deprivation, medical errors, debt, fatigue, salaries, representation
• 2000s: duty hours reform, fatigue, med errors, workload compression, supervision, patient safety, work-life balance, lifestyle, Wellness
• 2010+: burnout, depression, sleep deprivation, suicide, well-being
Changing Issues for Residency Training

- Faculty absence
- Increased workload
- Knowledge explosion
- Complexity of medical care
- Public accountability
- Govt. and NGO regulations
- Hi-Technology (EHR, IT)
- Constantly connected (24/7)
- Social Media

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Giving Voice to the Residents

• Since the Flexner report in 1911 (didn’t mention GME), there have been more than a dozen major reports on GME.
  • No report included any residents, as their voices were considered either irrelevant or unimportant.

Chinese proverb: “If you are not a fish, how can you know if the fish are happy?”
Education Research

• 1985 – Invited to AMA to forecast future developments in medical education in the 21st Century
  • At that point, there was really no systematic research in medical education
  • Most studies were from single schools or individual specialties
  • The AMA and AAMC collected annual data for their national databases, but this was not research nor theory-driven

• The AMA started using surveys in the early 1980s, but the surveys were of program directors (not residents or fellows)
  • First two national surveys queried program directors and included resident loss and attrition, support services, stress, resident impairment

• All subsequent national surveys were directed individually to medical students (1980s-1990s) and residents (1989, 1999)

The World through the eyes of the Residents
Word cloud from 2016 comments
Variation and Complexity in Residency Training

“EVERY RESIDENT IS IN SOME RESPECTS:

• LIKE ALL OTHER RESIDENTS

• LIKE SOME OTHER RESIDENTS

• LIKE NO OTHER RESIDENT”

Adapted from Kluckholm and Murray
Highlights of previous work (2009)

- Work intensity and duty hours
- Measures of sleepiness
- Measures of depression and stress
- Satisfaction with residency
- Activities outside of work
- Self-reported medical errors
2009 survey of 36 residency programs, N=634

The Web of Residency Training

External constraints
- Sleep Hours
- Sleep Deprivation
- Working Impaired
- Conflict
- Behavior Change
- Anxiety
- Stress
- Sleepiness
- Errors
- Intensity
- Activities
- Work Hours
- Learning
- Supervision
- Satisfaction
- Problems

Shared experiences

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Sleepiness and Depression are Keys to Understanding Residency Experience

Numerals are Pearson correlation coefficients
2009 survey of 36 residency programs, N=634

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Combining measures of depression and sleepiness (2009) improves predictions of:

• Interprofessional Conflict
• Self-reported medical errors
• Dissatisfaction with residency and learning
• Working while ill or impaired
• Increased use of alcohol, caffeine, and other drugs
Five years of voluntary questionnaires (2013-17)

• Anonymous, optional, survey presented to residents following their completion of the mandatory ACGME Resident Survey (SurveyMonkey)
• Queried general health, satisfaction with residency, depression, fatigue, instances of unprofessional treatment
• Self-report: age, specialty, PGY, medical school (MD, DO, IMG)
• Added questions about pregnancy, children, and citizenship in 2014
• Added measures of engagement and emotional exhaustion in 2016
• Utilized PHQ-2 depression screen in 2016
• Yearly responses averaged 16,500 (range 12,300 – 22,500)
• Open comments included for additional narratives
Three items from the PHQ-9

“Over the past two weeks, on how many days have you experienced…”

• Sleep Disturbance?
• Fatigue and Decreased Energy?
• Feelings of depression?

Compared resident/fellow responses to data from the general population
Over the past 2 weeks, on how many days have you had trouble falling asleep or staying asleep or sleeping too much?

<table>
<thead>
<tr>
<th>Days</th>
<th>Residents*</th>
<th>General Population**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>28%</td>
<td>54%</td>
</tr>
<tr>
<td>1 or 2</td>
<td>24%</td>
<td>20%</td>
</tr>
<tr>
<td>3 - 7</td>
<td>32%</td>
<td>17%</td>
</tr>
<tr>
<td>8 - 14</td>
<td>17%</td>
<td>10%</td>
</tr>
</tbody>
</table>

*Residents: N=21,997, data from 2013 Resident Well-Being Survey

**General Population: N = 16,838, Ages 25-41, College education, data from 2006 BRFSS survey from CDC

© 2019 ACGME
Over the last 2 weeks, on how many days have you felt tired or had little energy?

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Residents*</th>
<th>General Population**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>8%</td>
<td>30%</td>
</tr>
<tr>
<td>1 or 2</td>
<td>21%</td>
<td>30%</td>
</tr>
<tr>
<td>3 - 7</td>
<td>39%</td>
<td>27%</td>
</tr>
<tr>
<td>8 - 14</td>
<td>33%</td>
<td>13%</td>
</tr>
</tbody>
</table>

*Residents: N=21,886, data from 2013 Resident Well-Being Survey

**General Population: N = 16,831, Ages 25-41, College education, data from 2006 BRFSS survey from CDC

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Over the last 2 weeks, how many days have you felt down, depressed or hopeless?

<table>
<thead>
<tr>
<th>Days</th>
<th>Residents*</th>
<th>General Population**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>74%</td>
<td>50%</td>
</tr>
<tr>
<td>1 or 2</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>3 - 7</td>
<td>18%</td>
<td>6%</td>
</tr>
<tr>
<td>8 - 14</td>
<td>7%</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Residents: N=21,784, data from 2013 Resident Well-Being Survey

**General Population: N = 16,853, Ages 25-41, College education, data from 2006 BRFSS survey from CDC
2013 Takeaways

When compared to age-matched, college-educated respondents in the general population, residents and fellows from our sample reported:

• More sleep disturbance
• More fatigue and decreased energy
• More feelings of depression and hopelessness
### 2014: Pregnancy and children

<table>
<thead>
<tr>
<th>Response</th>
<th>Overall</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnant (self or partner)</td>
<td>7.0%</td>
<td>5.7%</td>
<td>8.1%</td>
</tr>
<tr>
<td>Children at home</td>
<td>26.9%</td>
<td>22.3%</td>
<td>31.4%</td>
</tr>
</tbody>
</table>

N = 16,985; Data from 2014 Resident Well-Being Survey © 2019 ACGME
Percentage of residents reporting pregnancy (own or partner) by age

N=16,705; data from 2014 Resident Well-Being Survey

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Children at home during residency

Dr. Rockey, PGY2 at the University of Washington, and the future chair of pediatrics at Oregon Medical Group in Eugene.
Residents with children at home (IM only)...

- Are 4 years older on average
- Were more satisfied with their residency experience
- Reported **fewer** days with fatigue and with feelings of depression
- Reported **less** sleep disturbance
- Reported **fewer** days with excessive time pressure

- Note: Residents who were or whose partner was pregnant show similar patterns

N = 3,510; Data from 2014 Resident Well-Being Survey © 2019 ACGME
2014 Takeaways

• 7% of our respondents reported a pregnancy at time of survey
• 27% reported having one or more children at home
• Within Internal Medicine, respondents with children at home reported:
  • More satisfied with residency
  • Less fatigued
  • Less sleep disturbance
  • Less time pressure
Children at home make life easier?
2015

“Knowing what you know today, if you could do it all over again, would you select medicine as a career?”
Select Medicine as a Career Again

N=12,658; data from 2015 Resident Well-Being Survey © 2019 ACGME
# Specialties rank listed by % saying “Yes”

<table>
<thead>
<tr>
<th>Rank</th>
<th>Specialty</th>
<th>Yes</th>
<th>Not Sure</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Emergency Medicine</td>
<td>78%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Family Medicine</td>
<td>75%</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>3</td>
<td>Psychiatry</td>
<td>74%</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>4</td>
<td>Pediatrics</td>
<td>73%</td>
<td>15%</td>
<td>12%</td>
</tr>
<tr>
<td>5</td>
<td>Internal medicine</td>
<td>72%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>6</td>
<td>General Surgery</td>
<td>70%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>7</td>
<td>Urology</td>
<td>69%</td>
<td>14%</td>
<td>17%</td>
</tr>
<tr>
<td>8</td>
<td>Ob/Gyn</td>
<td>69%</td>
<td>16%</td>
<td>14%</td>
</tr>
<tr>
<td>9</td>
<td>Med/Peds</td>
<td>69%</td>
<td>22%</td>
<td>10%</td>
</tr>
<tr>
<td>10</td>
<td>Orthopaedic Surgery</td>
<td>68%</td>
<td>19%</td>
<td>13%</td>
</tr>
<tr>
<td>11</td>
<td>Dermatology</td>
<td>68%</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>12</td>
<td>Neurological Surgery</td>
<td>67%</td>
<td>16%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Data from 2015 Resident Well-Being Survey

© 2019 ACGME
### Specialties rank listed by % saying “Yes”

<table>
<thead>
<tr>
<th>Rank</th>
<th>Specialty</th>
<th>Yes</th>
<th>Not Sure</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Radiation oncology</td>
<td>66%</td>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>14</td>
<td>Otolaryngology</td>
<td>66%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>15</td>
<td>Ophthalmology</td>
<td>63%</td>
<td>22%</td>
<td>15%</td>
</tr>
<tr>
<td>16</td>
<td>Preventive medicine</td>
<td>63%</td>
<td>15%</td>
<td>22%</td>
</tr>
<tr>
<td>17</td>
<td>Pathology</td>
<td>62%</td>
<td>18%</td>
<td>20%</td>
</tr>
<tr>
<td>18</td>
<td>Plastic surgery</td>
<td>62%</td>
<td>25%</td>
<td>14%</td>
</tr>
<tr>
<td>19</td>
<td>Transitional year</td>
<td>61%</td>
<td>22%</td>
<td>17%</td>
</tr>
<tr>
<td>20</td>
<td>Anesthesiology</td>
<td>59%</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>21</td>
<td>Neurology</td>
<td>59%</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>22</td>
<td>Phys Med/Rehab</td>
<td>58%</td>
<td>20%</td>
<td>22%</td>
</tr>
<tr>
<td>23</td>
<td>Diagnostic Radiology</td>
<td>52%</td>
<td>22%</td>
<td>25%</td>
</tr>
</tbody>
</table>

Data from 2015 Resident Well-Being Survey © 2019 ACGME
Choose medicine again versus reported general Health

<table>
<thead>
<tr>
<th>Choose Medicine Again?</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely Yes</td>
<td>6% (10%)</td>
<td>8% (15%)</td>
<td>15%</td>
<td>11%</td>
<td>26%</td>
</tr>
<tr>
<td>Probably Yes</td>
<td>31%</td>
<td>37%</td>
<td>34%</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>Not Sure</td>
<td>51%</td>
<td>37%</td>
<td>25%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>Probably Not</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Definitely Not</td>
<td>2%</td>
<td>3%</td>
<td>4%</td>
<td>11%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Self-described General Health

N=12,658; data from 2015 Resident Well-Being Survey © 2019 ACGME
“Select Medicine Again?” vs days feeling down, depressed, or hopeless in past two weeks

N=12,658; data from 2015 Resident Well-Being Survey
“Select Medicine Again?” vs mean days of belittlement/humiliation in past 2 weeks

N=12,658; data from 2015 Resident Well-Being Survey

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2015 Takeaways

• 70% of our respondents would choose medicine as a profession again, 16% aren’t sure, and 14% would not choose the profession again

• On whether respondents would choose medicine again, specialty differences exist, ranging from 80% – 50 % “yes”

• Strong associations (cross-sectional data, no causality implied) exist between whether respondents would choose medicine again and:
  • Self-reported general health
  • Feelings of depression
  • Reports of being belittled or humiliated
2016
PHQ-2 Depression Screen
Reports of Belittlement/Humiliation
PHQ-2 Depression Screen

“Over the past 2 weeks, how often have you been bothered by any of the following problems?”

<table>
<thead>
<tr>
<th>Little interest or pleasure in doing things.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling down, depressed, or hopeless.</td>
</tr>
</tbody>
</table>

Not at all (0)

Several Days (1)

More than Half the Time (2)

Nearly Every Day (3)
# PHQ-2 Depression Screen Results

<table>
<thead>
<tr>
<th>PHQ-2 Score</th>
<th>Percentage of total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>56.3%</td>
<td>6,238</td>
</tr>
<tr>
<td>1</td>
<td>16.7%</td>
<td>1,844</td>
</tr>
<tr>
<td>2</td>
<td>16.7%</td>
<td>1,845</td>
</tr>
<tr>
<td>3-6</td>
<td>10.3%</td>
<td>1,144</td>
</tr>
</tbody>
</table>

Symptoms of Depression

Positive screen for depression

N = 11,071; data from 2016 Resident Well-Being Survey © 2019 ACGME
Belittlement or Humiliation Query

“Over the last 2 weeks, on how many days did someone at work belittle or humiliate you?”

Response range: 0 to 14 days
## Days Experiencing Belittlement or Humiliation (Over past 2 weeks)

<table>
<thead>
<tr>
<th>Number of days</th>
<th>Percentage of total</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>73.0%</td>
<td>7,916</td>
</tr>
<tr>
<td>1-2</td>
<td>16.6%</td>
<td>1,801</td>
</tr>
<tr>
<td>3-8</td>
<td>7.7%</td>
<td>837</td>
</tr>
<tr>
<td>9-14</td>
<td>2.6%</td>
<td>288</td>
</tr>
</tbody>
</table>

N = 10,842; data from 2016 Resident Well-Being Survey © 2019 ACGME
Are belittlement and humiliation associated with depression?

<table>
<thead>
<tr>
<th>Measure of Depression</th>
<th>Belittled or Humiliated</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
</table>

N = 10,842; data from 2016 Resident Well-Being Survey
Are belittlement and humiliation associated with depression?

<table>
<thead>
<tr>
<th>Measure of Depression</th>
<th>Belittled or Humiliated</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms (PHQ-2 ≥ 2)</td>
<td>1 or more Days</td>
<td>3.82 (3.48-4.12)</td>
</tr>
</tbody>
</table>

N = 10,842; data from 2016 Resident Well-Being Survey © 2019 ACGME
Are belittlement and humiliation associated with depression?

<table>
<thead>
<tr>
<th>Measure of Depression</th>
<th>Belittled or Humiliated</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms (PHQ-2 ≥ 2)</td>
<td>1 or more Days</td>
<td>3.82 (3.48-4.12)</td>
</tr>
<tr>
<td>Positive Screen (PHQ-2 ≥ 3)</td>
<td>1 or more Days</td>
<td>4.56 (4.00-5.17)</td>
</tr>
</tbody>
</table>

N = 10,842; data from 2016 Resident Well-Being Survey © 2019 ACGME
Do specialties differ?

How do specialties differ on reports of belittlement or humiliation and on the results of the PHQ-2 depression screen?
Positive Depression Screen by Specialty with 1 or more of Days Belittlement/Humiliation

Data from 2016 Resident Well-Being Survey © 2019 ACGME
Medical Liability Premiums by Specialty with 1 or more of Days Belittlement/Humiliation

Data from 2016 Resident Well-Being Survey

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2017
Burnout items
Cluster Analysis

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# Items from Oldenburg Burnout Inventory

## Exhaustion items

- After work, I tend to need more time than in the past in order to relax and feel better.
- During my work, I often feel emotionally drained.
- After my work, I usually feel worn out and weary

## Engagement items

- I always find new and interesting aspects in my work.
- I find my work to be a positive challenge.
- I feel more and more engaged in my work.

Strongly Agree, Agree, Disagree, Strongly Disagree

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K-Means Cluster Analysis
Disengagement Score

• I always find new and interesting aspects in my work.
• I feel more and more engaged in my work.
• I find my work to be a positive challenge.
  1. Strongly Agree
  2. Agree
  3. Disagree
  4. Strongly Disagree

Sum of all 3 response scores = Disengagement Score

3 = Highly Engaged
12 = Highly Disengaged
After work, I tend to need more time than in the past in order to relax and feel better.

During my work, I often feel emotionally drained.

After my work, I usually feel worn out and weary.

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree

Sum of all 3 response scores = Emotional Exhaustion Score

3 = Not at all Emotionally Exhausted
12 = Maximally Emotionally Exhausted
### Cluster Means, Proportions, N’s

<table>
<thead>
<tr>
<th>Disengagement Score</th>
<th>Exhaustion Score</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.65</td>
<td>5.87</td>
<td>27.0%</td>
<td>3801</td>
</tr>
<tr>
<td>6.11</td>
<td>7.15</td>
<td>29.5%</td>
<td>4161</td>
</tr>
<tr>
<td>5.97</td>
<td>9.94</td>
<td>29.9%</td>
<td>4219</td>
</tr>
<tr>
<td>9.01</td>
<td>10.55</td>
<td>13.5%</td>
<td>1907</td>
</tr>
</tbody>
</table>

N = 14,088; data from 2017 Resident Well-Being Survey
## Cluster Means, Proportions, N’s

<table>
<thead>
<tr>
<th>Cluster “Condition”</th>
<th>Disengagement Score</th>
<th>Exhaustion Score</th>
<th>Proportion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>3.65</td>
<td>5.87</td>
<td>27.0%</td>
<td>3801</td>
</tr>
<tr>
<td>Stable</td>
<td>6.11</td>
<td>7.15</td>
<td>29.5%</td>
<td>4161</td>
</tr>
<tr>
<td>Serious</td>
<td>5.97</td>
<td>9.94</td>
<td>29.9%</td>
<td>4219</td>
</tr>
<tr>
<td>Critical</td>
<td>9.01</td>
<td>10.55</td>
<td>13.5%</td>
<td>1907</td>
</tr>
</tbody>
</table>

N = 14,088; data from 2017 Resident Well-Being Survey
Emotional Exhaustion Score vs. Disengagement Score

- Green: Healthy
- Blue: Stable
- Yellow: Serious
- Red: Critical

N = 14,088; data from 2017 Resident Well-Being Survey

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Condition comparisons
Self-reported General Health by Condition

N = 13,757; data from 2017 Resident Well-Being Survey

Healthy
- Excellent: 51%
- Very Good: 38%
- Good: 11%
- Stable
- Excellent: 49%
- Very Good: 26%
- Good: 24%
- Serious
- Excellent: 38%
- Very Good: 35%
- Good: 13%
- Critical
- Excellent: 13%
- Very Good: 25%
- Good: 24%

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### Choose Medicine Again by Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Definitely Yes</th>
<th>Probably Yes</th>
<th>Not Sure</th>
<th>Probably No</th>
<th>Definitely No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>68%</td>
<td>33%</td>
<td>1%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Stable</td>
<td>45%</td>
<td>14%</td>
<td>1%</td>
<td>23%</td>
<td>12%</td>
</tr>
<tr>
<td>Serious</td>
<td>21%</td>
<td>40%</td>
<td>12%</td>
<td>23%</td>
<td>3%</td>
</tr>
<tr>
<td>Critical</td>
<td>6%</td>
<td>27%</td>
<td>17%</td>
<td>28%</td>
<td>22%</td>
</tr>
</tbody>
</table>

N = 13,757; data from 2017 Resident Well-Being Survey

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Over the last 2 weeks, on how many days have you felt that you did NOT have enough time to think and reflect?
Not enough time to think and reflect

<table>
<thead>
<tr>
<th>Days without enough time to think and reflect</th>
<th>Healthy</th>
<th>Stable</th>
<th>Serious</th>
<th>Critical</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0%</td>
<td>5%</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>1-2</td>
<td>20%</td>
<td>35%</td>
<td>40%</td>
<td>45%</td>
</tr>
<tr>
<td>3-5</td>
<td>30%</td>
<td>25%</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>6-8</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>9-11</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>12-14</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

N = 13,876; data from 2017 Resident Well-Being Survey

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## Not enough time to think and reflect

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean number of days reported with not enough time to think and reflect (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>2.15</td>
</tr>
<tr>
<td>Stable</td>
<td>4.06</td>
</tr>
<tr>
<td>Serious</td>
<td>7.84</td>
</tr>
<tr>
<td>Critical</td>
<td>9.89</td>
</tr>
</tbody>
</table>

N = 13,876; data from 2017 Resident Well-Being Survey © 2019 ACGME
Over the last 2 weeks, how many days have you felt like you had too much to do and too little time at work?
Days with Excess Time Pressure

Days with Excess Time Pressure:

- Healthy
- Stable
- Serious
- Critical

N = 13,933; data from 2017 Resident Well-Being Survey

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## Days with Excess Time Pressure

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean number of days reported too much to do in too little time (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>2.61</td>
</tr>
<tr>
<td>Stable</td>
<td>4.03</td>
</tr>
<tr>
<td>Serious</td>
<td>7.39</td>
</tr>
<tr>
<td>Critical</td>
<td>9.04</td>
</tr>
</tbody>
</table>

N = 13,933; data from 2017 Resident Well-Being Survey © 2019 ACGME
Over the last 2 weeks, how many days have you felt tired or had little energy?
Days Feeling Tired or Having Little Energy

N = 14,032; data from 2017 Resident Well-Being Survey

© 2019 ACGME
## Days Feeling Tired or Having Little Energy

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean number of days reported feeling tired or having little energy (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>2.99</td>
</tr>
<tr>
<td>Stable</td>
<td>4.71</td>
</tr>
<tr>
<td>Serious</td>
<td>8.06</td>
</tr>
<tr>
<td>Critical</td>
<td>9.92</td>
</tr>
</tbody>
</table>

N = 14,032; data from 2017 Resident Well-Being Survey © 2019 ACGME
Over the last 2 weeks, on how many days did someone at work treat YOU in what you consider to be an unprofessional manner?
Days reported treated unprofessionally

N = 13,870; data from 2017 Resident Well-Being Survey

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### Days reported treated unprofessionally

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean number of days where respondent was treated in an unprofessional manner (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>0.60</td>
</tr>
<tr>
<td>Stable</td>
<td>1.27</td>
</tr>
<tr>
<td>Serious</td>
<td>2.41</td>
</tr>
<tr>
<td>Critical</td>
<td>4.26</td>
</tr>
</tbody>
</table>

N = 13,870; data from 2017 Resident Well-Being Survey © 2019 ACGME
Over the last 2 weeks, on how many days did someone at work belittle or humiliate you?
## Days of reported belittlement or humiliation

<table>
<thead>
<tr>
<th>Condition</th>
<th>Mean number of days where respondent reported being belittled or humiliated (out of 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>0.21</td>
</tr>
<tr>
<td>Stable</td>
<td>0.52</td>
</tr>
<tr>
<td>Serious</td>
<td>1.24</td>
</tr>
<tr>
<td>Critical</td>
<td>2.63</td>
</tr>
</tbody>
</table>

N = 13,870; data from 2017 Resident Well-Being Survey © 2019 ACGME
PHQ-2 Results by Condition

Lighter Colors add Signs/Symptoms (2)
Darker Colors are Positive Screens (3+)

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## Suggested Interventions Based on Resident Condition

<table>
<thead>
<tr>
<th>Condition</th>
<th>Intervention Strategies</th>
</tr>
</thead>
</table>
| Healthy   | • Encourage resident to reach out to friends and family  
            • Share strategies for self-care with other clusters |
| Stable    | • Check-in on resident perception of career trajectory  
            • Realize/show real impact of patient care |
| Serious   | • Mentorship: from peer or superior  
            • Revisit professional goals |
| Critical  | • Robust detection mechanisms: peers, students, nurses, faculty  
            • Individual care: psychotherapy, medication, remediation |
Cluster Analysis Takeaways

High levels of emotional exhaustion and disengagement are associated with:

• Increased risk of depression
• Suboptimal general health
• Perceived excess time pressure
• Reports of unprofessional treatment
Analysis of Resident/Fellow Comments from 2016
Study question

• What do resident physicians tell us about the issues that play a role on their well-being?
We based our study on...

- 2016 ACGME survey of well-being: 12,361 trainees responded.

- Of these respondents: 2,459 trainees also related personal experiences in open-ended comments.

- Three investigators independently reviewed the first 400 of 2,459 comments.

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Qualitative analysis

• Comments could include statements in multiple categories.

• After review of the first 400 comments, investigators agreed on 31 distinct statement categories.

• To confirm consensus saturation, every 10th of the remaining comments was reviewed and confirmed by two investigators.

• No new statement categories emerged after reviewing an additional 205 comments (total 605).
Major findings from 605 comments

• 1,454 distinct statements placed into three major groups

• Seven categories in the “good” statement group (n=480)

• Eleven categories in the “bad” statement group (n=670)

• Thirteen categories in the “ugly” statement group (n=304)
“Good” Statement Categories

• High satisfaction
• Strong support systems
• Good balance between teaching and patient care
• Good work life balance
• Friendly environment
  • Positive Rapport
  • High Engagement
“Bad” Statement Categories

- General dissatisfaction
  - Lack of support
  - Lack of teaching
- Poor work life balance
- Money / Salary issues
- Excessive Workload
- Impaired health / well being
  - Family issues
- Disorganized administration
- Inappropriate space / privacy
  - Dislike surveys

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“Ugly” Statement Categories

- Belittlement
- Intimidation
- Retaliation
- Favoritism
- Disrespect/neglect
  - Racism
  - Sexism
- Staff conflict
- Unethical behavior
  - Harassment
  - Blame
- Hostile environment
  - Exploitation

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The Good: Typical statements

• “the staff is friendly, eager to teach, and full of team players” Anesthesiology, PGY2
• “very positive, very dedicated attending team” Hematology and oncology, First year fellow
• “best program director, great teacher, spends hours in education everyday...very friendly with everybody” Cardiology, First year fellow
• “program provides a real tight-knit, family-like atmosphere” Cardiology, First year fellow
• “program director is always willing to address any issues that may arise” Child and adolescent psychiatry, First year fellow
The Bad: Typical statements

• “too much paperwork, not enough learning. Being a doctor seems more like being an overworked secretary who also prescribes meds”  Psychiatry, PGY4

• “learning is like the pot of gold at the end of a rainbow - elusive”  Internal medicine, PGY2

• “personal education time is suffering tremendously”  Diagnostic radiology, PGY5

• “the rate of pregnancy complications in my residency colleagues is very concerning. All worked until the day of their delivery, and most had premature deliveries”  Cardiology, Third year fellow

• “I want financial support. How do I manage this debt?”  Pediatrics, PGY3

• “program allows only 2 days sick leave for the whole year”  Internal medicine
The Ugly: Typical statements

- “Residency feels like indentured servitude.” Physical medicine/Rehabilitation, PGY4
- “discriminated and enslaved by the residency program” Internal Medicine, PGY3
- “an attending put his hand on my head and (jokingly) called me his slave in front of my colleagues when he was introducing his "teaching style” Internal Medicine, PGY1
- “aggression and hostility from attendings...keeps residents in a constant state of anxiety...greatly impacting resident functionality and performance” Radiology, PGY2
The Ugly: Typical statements

• “when bringing up situations that compromised patient safety, we were threatened with retaliation”  Pulmonary disease & critical care, Third year fellow

• “Patients’ records distorted intentionally; I am really worried about being [an] incompetent cardiologist graduating from this program.”  Cardiology, fellow

• “residents have no voice and are mistreated by faculty...negatively affects patient care”  Pediatric cardiology, Second year fellow

• “abusive attending threatened to kill me”  Radiation oncology, PGY5
Residents reported their experiences based on:

• The quality of academic learning
• Systems that optimize patient care
• A friendly and supportive work environment
Why we must listen to residents’ concerns

• Efforts to improve resident physicians’ well-being should address their underlying concerns.

• “Bad” and “ugly” concerns are remediable.

• Mistreatment that harms physician well being may lead to medical errors (Baldwin research, in press).
How residents’ statements related to their well-being survey responses

• Residents placed in three groups using their statement categories.
  • Only “good” statements → “Good” group
  • Any “bad” but no “ugly” statements → “Bad” group
  • Any “ugly” statement → “Ugly” group

• We compared the responses of these three groups on the survey questions about well-being and unprofessional treatment.
Days of unprofessional treatment in the previous two weeks

<table>
<thead>
<tr>
<th>Group</th>
<th>Average days of unprofessional treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0.58</td>
</tr>
<tr>
<td>Bad</td>
<td>2.63</td>
</tr>
<tr>
<td>Ugly</td>
<td>5.27</td>
</tr>
</tbody>
</table>
### Days of unprofessional treatment in the previous two weeks

<table>
<thead>
<tr>
<th>Group</th>
<th>Average days of unprofessional treatment</th>
<th>Average days of belittlement or humiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0.58</td>
<td>0.19</td>
</tr>
<tr>
<td>Bad</td>
<td>2.63</td>
<td>1.31</td>
</tr>
<tr>
<td>Ugly</td>
<td>5.27</td>
<td>4.00</td>
</tr>
</tbody>
</table>

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Days of unprofessional treatment and depression rates in the previous two weeks

<table>
<thead>
<tr>
<th>Group</th>
<th>Average days of unprofessional treatment</th>
<th>Average days of belittlement or humiliation</th>
<th>% with symptoms of depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0.58</td>
<td>0.19</td>
<td>8%</td>
</tr>
<tr>
<td>Bad</td>
<td>2.63</td>
<td>1.31</td>
<td>40%</td>
</tr>
<tr>
<td>Ugly</td>
<td>5.27</td>
<td>4.00</td>
<td>50%</td>
</tr>
</tbody>
</table>

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Days of unprofessional treatment and depression rates in the previous two weeks

<table>
<thead>
<tr>
<th>Group</th>
<th>Average days of unprofessional treatment</th>
<th>Average days of belittlement or humiliation</th>
<th>% with symptoms of depression</th>
<th>% with positive screen for depression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0.58</td>
<td>0.19</td>
<td>8%</td>
<td>2%</td>
</tr>
<tr>
<td>Bad</td>
<td>2.63</td>
<td>1.31</td>
<td>40%</td>
<td>28%</td>
</tr>
<tr>
<td>Ugly</td>
<td>5.27</td>
<td>4.00</td>
<td>50%</td>
<td>28%</td>
</tr>
</tbody>
</table>

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Why these findings are important

• Residency training is a period of profound professional transformation.
• Humanistic relationships in the workplace lead to more empathic patient care.
• Resident physicians subjected to mistreatment and unprofessional behaviors report:
  • Higher rates of burnout, anxiety, and depression
  • Disruptions to their learning environment
  • Inefficiencies in their work
  • Increased medical errors
What we can do to take action

• Faculty and staff must promote a positive and supportive culture, free of intimidation, harassment, belittlement, and other unprofessional behaviors.

• Residents must have ready access to support systems and health services.

• Institutions must establish and enforce clear standards of conduct.

• Resident physicians must be able to report unacceptable behaviors with the expectation of problem resolution and without fear of reprisals.

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Bud’s reflections
<table>
<thead>
<tr>
<th>THE GOOD</th>
<th>THE BAD</th>
<th>THE UGLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Stress</td>
<td>Psychological Abuse</td>
</tr>
<tr>
<td>Experience</td>
<td>Medical Error</td>
<td>Physical Abuse</td>
</tr>
<tr>
<td>Professionalism</td>
<td>Adverse Outcome</td>
<td>Sexual Harassment</td>
</tr>
<tr>
<td>Attending Contact</td>
<td>Interprofessional Conflict</td>
<td>Unethical Demands</td>
</tr>
<tr>
<td>Attending Quality</td>
<td>Lack of Supervision</td>
<td>Work while Sick</td>
</tr>
<tr>
<td>Overall Satisfaction</td>
<td>Sleep Deprivation</td>
<td>Observed Falsification</td>
</tr>
<tr>
<td>Teaching time</td>
<td>Alcohol Use</td>
<td>Observed Mistreatment</td>
</tr>
<tr>
<td>Learning Sources</td>
<td>Drugs/Medications</td>
<td>Observed Impairment</td>
</tr>
<tr>
<td>Student Teaching</td>
<td>Malpractice</td>
<td>Self-Impairment</td>
</tr>
<tr>
<td>Work Hours &lt; 80 hours</td>
<td>Accident/Injury</td>
<td>Life-Style Discrimination</td>
</tr>
<tr>
<td>Collegiality</td>
<td>Weight Change</td>
<td>Racial/Ethnic Discrimination</td>
</tr>
<tr>
<td>Work Hours &gt; 80 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleep Hours &lt; 6 hrs/night</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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# The “Ugly” over the years

<table>
<thead>
<tr>
<th>Reported Personal Experience</th>
<th>1989</th>
<th>1999</th>
<th>2009*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Abuse (Humiliation and Belittlement)</td>
<td>86.4%</td>
<td>79.3%</td>
<td>65.4%</td>
</tr>
<tr>
<td>Physical Abuse (slap, push, kick, hit)</td>
<td>38.5%</td>
<td>19.1%</td>
<td>N/A</td>
</tr>
<tr>
<td>Sexual Harassment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>30.4%</td>
<td>-</td>
<td>7.8%</td>
</tr>
<tr>
<td>Men</td>
<td>63.0%</td>
<td>35.3%</td>
<td>9.0%</td>
</tr>
<tr>
<td>15.3%</td>
<td>10.0%</td>
<td>6.0%</td>
<td></td>
</tr>
<tr>
<td>Racial/Ethnic Discrimination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>25.4%</td>
<td>26.5%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Non-White</td>
<td>46.2%</td>
<td>14.4%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Mistreatment of Patients</td>
<td>70.4%</td>
<td>52.3%</td>
<td>N/A</td>
</tr>
<tr>
<td>Falsification of Medical Records</td>
<td>44.5%</td>
<td>32.8%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*2009 Data Not Directly Comparable

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Question and Answer session

http://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being/Resources

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SES092: ACGME Resident Wellness Data: Results from Five Years of Surveys

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Accreditation Council for Graduate Medical Education
Chicago, IL