Burnout in Pediatric Residents
Findings from a National Longitudinal Survey

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

Resident burnout has been associated with:

- Poor resident health
- Impaired resident performance
- Suboptimal patient care
- Decreased patient satisfaction

Prins, Med Teach 2007; Wallace, Lancet 2009; Dyrbye, JAMA 2010; Baer, Pediatrics 2017
Prevalence of burnout among pediatrics residents: 46-74%

- Limited by small sample sizes, low response rates, and minimal assessment of risk factors/impacts
- Less is known about combined (e.g., Med-Peds)

Knowledge gaps remain:

- National prevalence, distribution and natural history
- Understanding individual and institutional protective/risk factors to target future interventions

Objectives

1. To determine the prevalence of burnout among pediatrics and medicine-pediatrics residents in a national sample over two years

2. To characterize potential personal and programmatic risk/protective factors for burnout
Pediatric Resident Burnout-Resilience Study Consortium (PRB-RSC)

Established in 2015

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

http://pedsresresilience.com
Participating Institutions

46 participating institutions

• In 2016, 34 programs surveyed
• In 2017, 43 programs surveyed
• 31 programs responded in both years
Methods

- Anonymous, online survey of all PRB-RSC residents via APPD LEARN from April-June of 2016 and 2017
  - No exclusion criteria

- IRB approval at each individual institution

- Programs encouraged to employ their own recruitment strategies (including incentives)
  - Engagement of program leadership and commitment to address wellness
  - Program level incentive offered by PRB-RSC to top 3 recruiting programs for the first year
Survey Tool

• Total of 141 items, 12-15 min to complete
• Demographics & Residency Characteristics
  
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, Race</td>
<td>Year of training</td>
</tr>
<tr>
<td>Gender</td>
<td>Proximity to weekend and vacation</td>
</tr>
<tr>
<td>Marital status</td>
<td>Type of rotation</td>
</tr>
<tr>
<td>Debt</td>
<td>Recent experiences (e.g., night call, patient death)</td>
</tr>
</tbody>
</table>

• Attributes of Wellness

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burnout</td>
<td>Self-compassion</td>
</tr>
<tr>
<td>Resilience</td>
<td>Empathy</td>
</tr>
<tr>
<td>Stress</td>
<td>Sleepiness</td>
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<tr>
<td>Mindfulness</td>
<td>Career satisfaction</td>
</tr>
</tbody>
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Maslach Burnout Inventory

- Considered criterion standard for measuring burnout
- Validated 22-item questionnaire
- 3 subscales: Depersonalization (DP), Emotional Exhaustion (EE), Personal Accomplishment (PA)
- By convention, high score in DP ($\geq 27$) or EE ($\geq 10$) is considered ‘burned out’
Analyses

Rates of burnout were calculated by:

- Residency type (peds or med/peds)
- Residency year
- Survey year
- Institution

To account for clustering of learners in programs, and repeated measures, mixed-effects logistic regression models were used to predict factors associated with burnout.
Response Rates

- 2016: 62% (1693/2723 eligible residents)
- 2017: 66% (2179/3273 eligible residents)
- Over 80% of programs had > 50% response rate
- 71% (22/31) of programs that participated in both years had > 50% response rate
- 698 total residents responded in both years
## Demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>2016 (n=1693)</th>
<th>2017 (n=2179)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>72%</td>
<td>72%</td>
</tr>
<tr>
<td>Caucasian</td>
<td>71%</td>
<td>74%</td>
</tr>
<tr>
<td>Mean Age (SD)</td>
<td>29.3 (3.0)</td>
<td>29.3 (2.5)</td>
</tr>
<tr>
<td>Married/partnered</td>
<td>59%</td>
<td>60%</td>
</tr>
<tr>
<td>Children</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>Total educational debt &gt; $100,000</td>
<td>62%</td>
<td>63%</td>
</tr>
<tr>
<td>Live alone</td>
<td>30%</td>
<td>33%</td>
</tr>
</tbody>
</table>

No differences between residents who were vs. were not burned out
Prevalence of Burnout

• Overall prevalence of burnout:
  • 56% in 2016
    • (Range: 22-76%; Mean: 55%; Median: 58%)
  • 54% in 2017
    • (Range: 27-74%; Mean: 53%; Median: 55%)

• Did not differ by program size
Burnout by Year of Training

![Graph showing burnout by year of training for Categorical and Med/Peds programs, with data periods 2016 and 2017.]
Associations with Burnout

Predictor: Perceived Stress (1 SD increase), PGY2 in 2017 data period (vs. others), Last weekend off 4+ weeks ago (vs. last week), White race (vs. non-White), Perspective taking (IRI, 1 SD increase), Calm Compassionate Care (1 SD increase), Self-Compassion (Neff, 1 SD increase), Empathic concern (IRI, 1 SD increase)

Odds ratio +/- 95% CI
Limitations

- Program participation in PRB-RSC voluntary
- Dependent on self-reporting
Conclusions

Overall rates of burnout in this *national* sample are persistently **high**

- Time for action

Rate of burnout varied markedly by program, program type, and year of training

Several personal and programmatic characteristics are attractive targets for interventions to prevent and/or reduce burnout

PRB-RSC is a platform to address key issues of burnout and wellness
PRB-RSC Member Institutions

• Baylor/Texas Children’s
• Boston Combined Program
• Carolinas Medical Center
• Case Western/Rainbow Babies/Children
• Children’s Hospital at Erlanger
• Children’s Hospital of Michigan/Wayne State
• Children’s Hospital of Philadelphia/ Pennsylvania
• Children’s Hospital of Pittsburgh
• Children’s Mercy
• Cornell/NY Presbyterian
• Crozer-Chester Medical Center
• Duke University
• Dartmouth University
• duPont Hospital
• Hasbro Children’s/Brown University
• Indiana University
• Inova Fairfax Medical Campus
• Johns Hopkins University
• Louisiana State University
• Lurie Children’s/Northwestern
• Maine Medical Center
• Mayo Clinic College of Medicine
• Medical College of Wisconsin
• Montefiore Children’s/Einstein COM
• Nationwide Children's/The Ohio State University
• Newark Beth Israel
• Rush University
• Shands Hospital/Florida
• Stanford University
• St Christopher’s Hospital

• Stroger Hospital of Cook County
• Tufts Medical Center
• Tulane
• U of Alabama
• U of Arizona
• U of California Davis
• U of California Los Angeles
• U of California San Diego
• U of Chicago/Cornell Children’s Hospital
• U of Cincinnati/Cincinnati Children’s
• U of Colorado/Denver Children’s
• U of Illinois Chicago
• U of Kansas
• U of Louisville
• U of Michigan
• U of Minnesota
• U of New Mexico
• U of North Carolina
• U of Oklahoma
• U of Oklahoma- Tulsa
• U of Rochester
• U of South Alabama
• U of Texas Austin
• U of Texas Houston
• U of Washington/Seattle Children's
• U of Wisconsin
• Vanderbilt
• Virginia Tech/Carilion Clinic
• Wright State/Dayton’s Children’s Hospital
• Yale New Haven Medical Center
Thank you

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