structural interventions against physician burnout resident schedule

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disclosures

Named inventor: Patent Bedside Paediatric Early Warning System. Owner the Hospital for Sick Children.

Shares: Bedside Clinical Systems - a clinical decision support company in part owned by the Hospital for Sick Children.
schedule?

**Professional**
- work content
- workload
- environment/culture

**Personal**
- staff support
- supervision
- reward
- recognition

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**Stressors**
- crashes
- circadian rhythm disrupt
- sleep deprivation
- physical symptoms
- debt & exams

**Mitigation**
- family
- positive relationships
- vacation
- hobbies

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**Individual Effects**
- crashes
- circadian rhythm disrupt
- sleep deprivation
- physical symptoms
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**Work Content**
- environment/culture

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**Schedule?**

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- vacation
- hobbies

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**Vacation**
- hobbies
Patient safety, resident well-being and continuity of care with different resident duty schedules in the intensive care unit: a randomized trial

Christopher S. Parshuram MB ChB DPhil, Andre C.K.B. Amaral MD, Niall E. G. Ross Baker PhD, Edward E. Etchells MSc MD, Virginia Flintoft BN MSc, Lorelei Lingard PhD, Haresh Kirpalani BM MSc, Sangeeta Mehta MD, Har Damon C. Scales MD PhD, Thomas E. Stewart MD, Andrew R. Willan PhD, for the Canadian Critical Care Trials Group

47 (96%) residents
2 adult ICU
3 schedules
12h 7/8 harmful errors
least favoured
16h patients known less
24h worst symptoms
The graph shows the percentage of respondents for different numbers of symptoms rated as moderate or worse. The x-axis represents the number of symptoms (from none to 8), and the y-axis represents the percent of respondents. The bars are color-coded:

- N24 (black)
- N16 (gray)
- N12 (dark gray)

The p-value for the comparison is p=0.044.
**Burnout inventory**

% respondents 'high burnout'

- **Maslach Burnout sub-scale**
  - EE: Emotional Exhaustion
  - PA: Personal Accomplishment
  - DP: DePersonalization

Graph showing data for different time points (1 = start, 2 = end rotation), with a p-value of NS.
Burnout inventory

% respondents ‘high burnout’

EE Emotional Exhaustion
PA Personal Accomplish
DP DePersonalization

p=NS
no difference in burnout
High-level burnout

Residents with High degree of burnout by MBI domain

<table>
<thead>
<tr>
<th></th>
<th>rotation start (n=45)</th>
<th>end (n=41)</th>
<th>difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Exhaustion</td>
<td>51%</td>
<td>59%</td>
<td>+8%</td>
</tr>
<tr>
<td>Depersonalization</td>
<td>29%</td>
<td>39%</td>
<td>+10%</td>
</tr>
<tr>
<td>Personal Accomplishment</td>
<td>40%</td>
<td>56%</td>
<td>+16%</td>
</tr>
</tbody>
</table>

Modest numbers of individual residents tested, non-significant, but consistent increases across domains

> 2 months in ICU may increase resident burnout.
**Interpretation**

1. Baseline Emotional Exhaustion
   
   pre-existing /system issue

2. No difference between ICU schedules
   
   but low power to exclude important effect

3. ICU Environment > ICU Schedule
   
   2 months in ICU may increase burnout

   for sleepiness: working at night > schedule
the ICU environment

12-20% mortality
conflict & characters
burnout
moral distress
Prevalence and Factors of Intensive Care Unit Conflicts
The Conflicus Study

Élie Azoulay¹, Jean-François Timsit², Charles L. Sprung³, Marcio Soares⁴, Kateřina Rusinová⁵, Ariane Lafabrie¹, Ricardo Abizanda⁶, Mia Svanesson⁷, Francesca Rubulotta⁸, Bara Ricou⁹, Dominique Benoît¹⁰, Daren Heyland¹¹, Gavin Joynt¹², Adrien François², Paulo Azevedo-Maia¹³, Radoslaw Owczuk¹⁴, Julie Benbenishty³, Michael de Vita¹⁵, Andreas Valentin¹⁶, Akos Ksomas¹⁷, Simon Cohen¹⁸, Lidija Kompan¹⁹, Kwok Ho²⁰, Fekri Abroug²¹, Anne Kaarlola²², Herwig Gerlach²³, Theodoros Kyprianou²⁴, Andrej Michalsen²⁵, Sylvie Chevret²⁶, and Benoît Schlemmer¹, for the Conflicus Study Investigators and for the Ethics Section of the European Society of Intensive Care Medicine*.

7358 (80.9%) questionnaires
323 (81.4%) ICUs | 24 countries
5268 = 71.6% reported ≥1 conflict
burnout

47% French Intensivists
30% Paediatric Intensivists
14% Paediatric Intensivists
33% French ICU Nurses

Emibriaco 2007
Levi 2004
Fields 2005
Poncet 2007

historical levels ~ versus population level
more recent levels higher ...
High Level of Burnout in Intensivists
Prevalence and Associated Factors

Nathalie Embriaco¹, Elie Azoulay², Karine Barrau³, Nancy Kentish⁴, Frédéric Pochard⁵, Anderson Loundou⁶, and Laurent Papazian¹

¹Medical Intensive Care Unit, Hôpital Sainte-Marguerite Teaching Hospital, Université de la Méditerranée, Marseille, France; ²Medical Intensive Care Unit, Saint Louis Teaching Hospital, Paris, France; ³Laboratoire de Santé Publique, Faculté de Médecine, Marseille, France; ⁴Département de Sociologie, Université Victor Segalen, Bordeaux, France; and ⁵Maison des Adolescents, Cochin-Port Royal Teaching Hospital, Paris, France

cross-sectional, 198 French ICUs
978 physician respondents, 38% trainees (fellows, interns)
59 +/- 12 hours worked / week
24% symptoms of depression
46.5% high degree of burnout
higher MBI scores

independently associated:

1. female sex
2. the number of night shifts per month
3. a longer period of time from the last nonworking week,
4. night shift before the survey (the cause or as done more often?)
5. conflict with another colleague intensivist (the cause or effect?)
6. conflict with (a) nurse (the cause or effect?)

& Protective: relationship quality with chief nurses & nurses

& NOT severity of illness of patient factors, or worked hours.
Moral Distress in PICU and Neonatal ICU Practitioners: A Cross-Sectional Evaluation

Charles Philip Larson, MD, FRCPC; Karen D. Dryden-Palmer, RN, PhD(c); Cathy Gibbons, MBBChBAO, MRCPI; Christopher S. Parshuram, MBChB, DPhil, FR.

moral distress & depersonalization

\[ r^2 = 0.27; \ p < 0.001 \]

apparent paradox? mechanism? epiphenomenon?
structural interventions?

1. baseline issue - and conference rationale
2. understand the origins of the problem
3. schedule interventions limited effect....
   larger scale studies needed :)
4. mitigate moral distress
5. individual mindfulness (trainees/ faculty)
6. professional self-respect
7. fatigue risk management (org. mindfulness)
Individual Effects

Personal
professional

Stressors
mitigation

crashes
circadian rhythm disrupt
sleep deprivation
physical symptoms
debt

work content
workload
environment/culture

sleep
family
positive relationships
vacation
hobbies

Fatigue risk management

sleep
staff support
supervision
reward & recognition
thank you
chris@sickkids.ca
Fellowship training, workload, fatigue and physical stress: a prospective observational study

Christopher S. Parshuram, Sonny Dhanani, Joel A. Kirsh, Peter N. Cox

11 ICU fellows
35 overnight duty periods = 24h
40 pages
no sleep 1 in 7 nights
most responsible in-house 8-9h
6.3km walked
ketonuria 1 in 5 mornings
half of 48 weeks 55-60h / week
> regulation does not protect