



# A Longitudinal Cohort Study of U.S. Residents: Predictors of Burnout and Career Regret

Lotte N. Dyrbye, MD, MHPE  
Professor of Medicine & Medical  
Education, Mayo Clinic  
On behalf of CHANGES investigators

Date Goes Here



**ICPH 2018**

INTERNATIONAL CONFERENCE ON PHYSICIAN HEALTH<sup>®</sup>

AMA  
CMA  
BMA



# Background

- Burnout is common among physicians
- Associated with medical errors, lapses in professionalism, impeded learning, problematic ETOH use, suicidal ideation, etc.
- Practicing physicians with burnout are more likely to be dissatisfied w. their career and plan to leave current practice, retire early, or reduce clinical hours
- Substantial differences in prevalence of burnout and career satisfaction by specialty

# Aims

1. Explore rates of reported sx of burnout and career and specialty choice regret based on clinical specialty
2. Identify factors measured during medical school that may increase risk of sx of burnout and career and specialty choice regret

by second year of residency (PGY-2)

# Methods

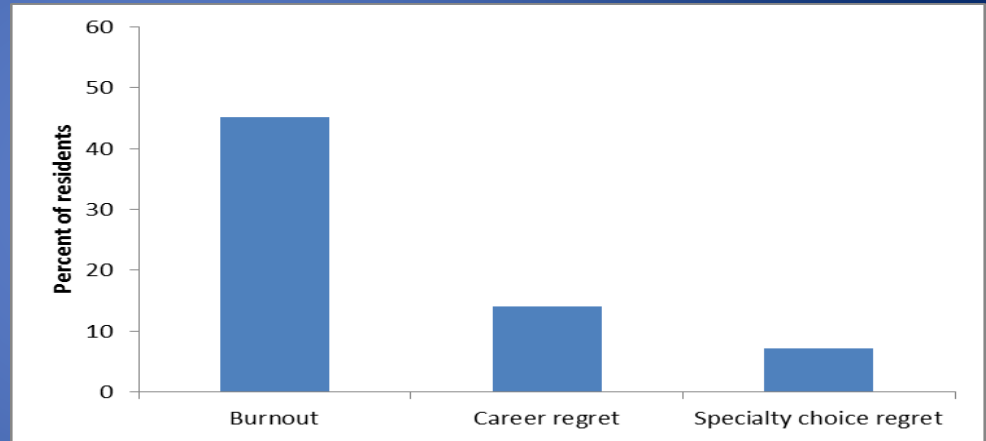
- Prospective cohort study of 4732 US resident physicians
  - MS1 enrolled, 2010
  - MS4 survey, 2014
  - PGY-2 survey, 2016
- Demographics, debt, USMLE Step 1 score
- PROMIS Anxiety, JSPE Empathy, Medical Outcomes Social Support (MS4)
- Main outcomes (PGY-2):
  - Burnout (2 items from MBI)
  - Career choice regret
  - Specialty choice regret

# Sample

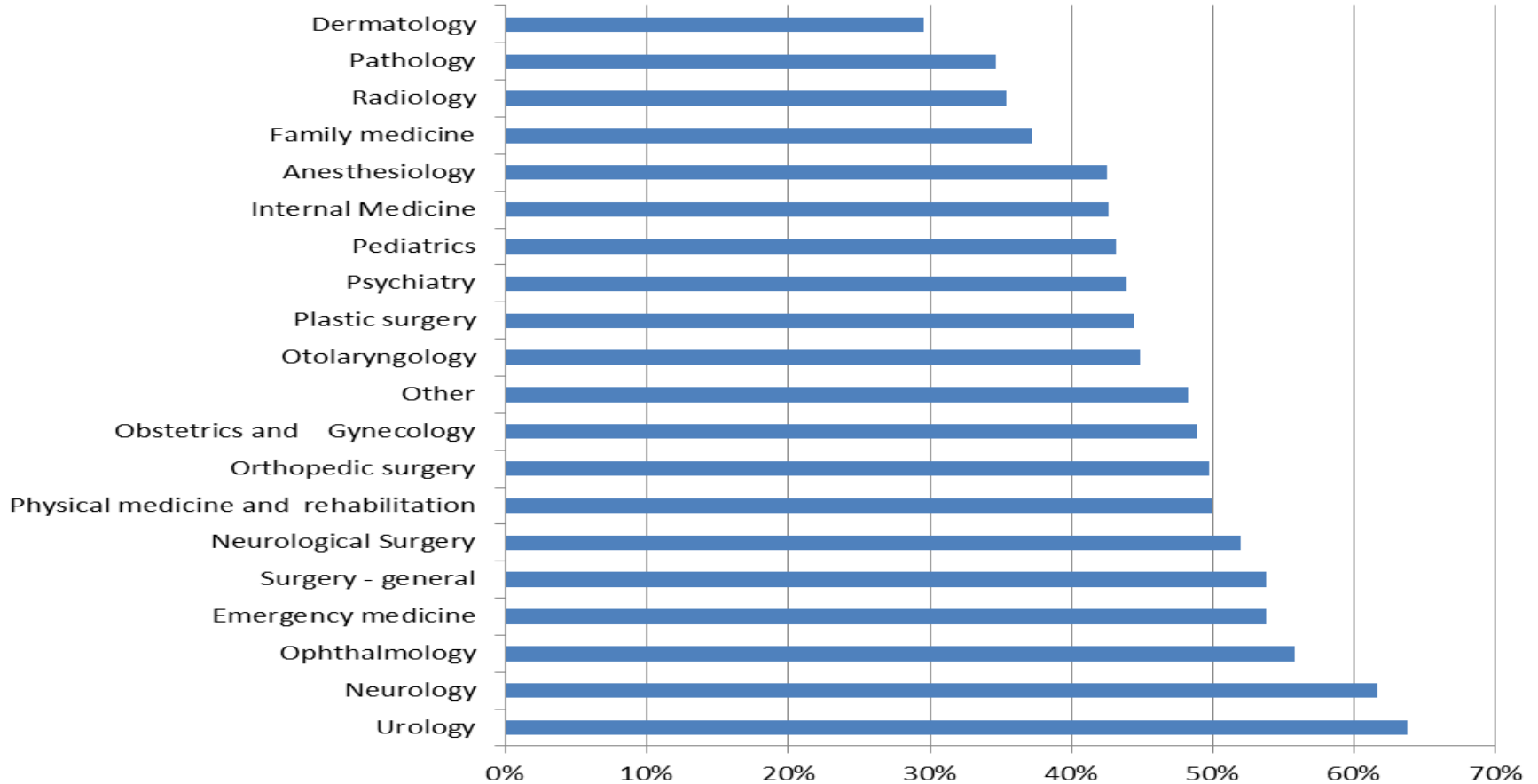
- 49 Medical schools
- 8594 1<sup>st</sup> year students
  - 4732/5823 (81%) completed MS1 survey
  - 3994/4732 (84%) completed MS4 survey
  - 3588/4696 (76%) completed PGY-2 survey

# Results

- Median age 29
- 50.9% women
  
- Burnout 45.2%
- Career regret 14.1%
- Specialty regret 7.1%



# Sx of Burnout



# Multivariable Analysis: Burnout

	<u>Relative Risk</u>
• Urology (vs. IM)	1.45
• Neurology (vs. IM)	1.48
• Emergency Medicine (vs. IM)	1.34
• General Surgery (vs. IM)	1.24
• Dermatology (vs. IM)	.62
• Pathology (vs. IM)	.63

Other variables in the model not significant: Demographic variables (age, race, ethnicity, parental status, marital status, country of birth, household income)

Educational debt, USMLE Step 1 score, MS4 Social support

Dyrbye et al., In Press



# Multivariable Analysis: Burnout

## Relative Risk

Con't

- Female gender 1.17
- MS4 Anxiety (per 1 point ↑) 1.08
- MS4 Empathy (per 1 point ↑) .99

Other variables in the model not significant: Demographic variables (age, race, ethnicity, parental status, marital status, country of birth, household income)

Educational debt, USMLE Step 1 score, MS4 Social support

# MV Analysis: Career Choice Regret

## Relative Risk

- Burnout 3.20
- Pathology (vs. IM) 2.60
- Anesthesiology (vs. IM) 1.66
- MS4 Anxiety (per 1 point ↑) 1.04

Other variables in the model not significant: Demographic variables (age, race, ethnicity, parental status, marital status, country of birth, household income)

Educational debt, USMLE Step 1 score, MS4 Social support

Dyrbye et al., In Press

# MV: Specialty Choice Regret

## Relative Risk

- Burnout 3.29
- Anesthesiology (vs. IM) .47
- Emergency medicine (vs. IM) .29
- Family medicine (vs. IM) .52
- Pediatrics (vs. IM) .58
- Psychiatry (vs. IM) .32
- Ophthalmology (vs. IM) .20
- Orthopedic Surgery (vs. IM) .33

# MV: Specialty Choice Regret

## Relative Risk

Con't

- Age (per year ↑) 1.08
- Not Hispanic or Latino .58
- MS4 empathy (per point ↑) .98
- MS4 social support (per point ↑) .83

# Discussion

- Reported sx of burnout and career regret were prevalent
- Prevalence of burnout was similar to US physicians (48.8%, 2014) and higher than other US workers (28.4%, 2014) <sup>1</sup>
- Higher RR for burnout: Urology, Neurology, Emergency Medicine, and General Surgery (vs. IM)
  - Largely mirror findings in practicing physicians <sup>1</sup>

# Female Residents

Female residents were at higher risk for burnout, similar to studies of US practicing physicians<sup>1</sup>

- Work-life balance, work-home conflicts, sexism, stereotype threat, discrimination may play a part



<sup>1</sup> Shanafelt et al. MCP 2015;90

# Career & Specialty Choice Regret

- Scores of burnout were strongly correlated with career and specialty choice regret
- Residents in pathology and anesthesiology had high RR of career choice regret and low prevalence of burnout, suggesting regret may be due to other factors

# Ethnicity

Residents who were Hispanic or Latino had higher RR of specialty choice regret, independent of burnout symptoms

- Workplace discrimination related to ethnicity
- Social isolation
- Added stress of feeling obligated to excel
- Added stress of involvement in institutional diversity and disparity initiatives



# Factors measured in Medical School

- MS4 anxiety and empathy associated with burnout
- MS4 anxiety associated with career choice regret
- MS4 empathy and social support associated with specialty choice regret

High anxiety, lack of social support, and lower empathy during MS4 relate to risk of sx of burnout during residency or have effect on career/specialty choice regret

# Limitations

- Cohort may not be representative of all US residents
- Cause and effect and direction of the relationship cannot be determined (no baseline measurement of burnout/regret)
- Other important dimensions related to burnout and regret not measured
- Limited number of participants in some specialties

# Conclusion

Among US residents

- Sx of burnout and career choice regret were prevalent
- Varied substantially by clinical specialty

Additional research is needed to understand these differences and address the underlying issues



@dyrbye

Dyrbye et al., In Press

# Burnout

- 2 single-items adapted from MBI
- Shown in multiple samples >10,000 physicians and medical students to stratify risk of burnout
- Compared with the full MBI domain score
  - AUC .94 and .93 for single EE and DP item, respectively
  - + LR 14.9 and 23.4 for single EE and DP item, respectively