

#### THE FLORIDA STATE UNIVERSITY COLLEGE OF MEDICINE

Educating and developing exemplary physicians who practice patient-centered health care

### Emergency Medicine Analytics of Big Data from Research on Burnout in Medicine

Presenter

Dr. Thomas Cox, M.D., PGY-3 Resident Category

**Objective of the study:** 

Systematic review and meta-analysis of published literature to find out the updated prevalence of burnout among the emergency medicine residents and physicians

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# Objective

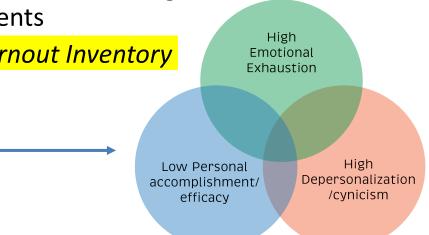
 Systematic review and meta-analysis of published literature to find out the updated prevalence of burnout among the emergency medicine residents and physicians



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### Methods

- Study design Systematic Review and Meta-analysis
  - Preferred Reporting Items for Systematic review and Meta-analysis guidelines.
- **Database searched** PubMed, Embase, Web of Science and grey literatures (Inception to March 4, 2021)
  - Study inclusion criteria
    - Studies reporting prevalence of burnout among emergency physicians and residents
    - Studies utilizing the *Maslach Burnout Inventory* (*MBI*) questionnaire



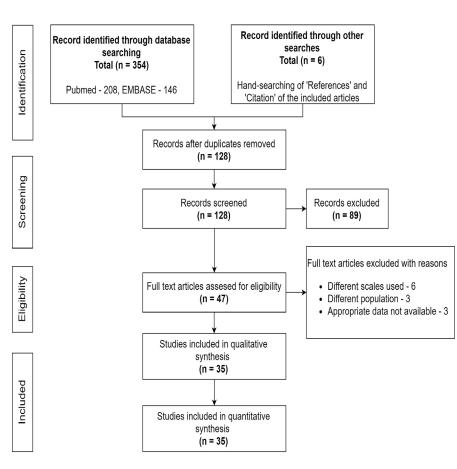


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## Results

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- Total studies **35**
- Total emergency physicians and residents
   - 8,248
- Mean age 34.4 years
  - Male physicians 57%



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## Results

#### Overall prevalence of burnout: 51 % (95%CI: 39-62)

- Attendings: 52 %
- Residents: 56 %

#### Prevalence according to MBI Domain:

- Depersonalization: 48%
  - (95% CI: 0.34 0.62, I2 98.8%)
- **Emotional exhaustion 45%** 
  - (95% CI: 0.35 0.55, I2 97.8%)
- Personal accomplishment 39%
  - (95% CI: 0.30 0.49, 12 96.3%)

#### Egger's p-value: 0.614

Study		Mainha	
	ES (95% CI)	Weight	
physicians			
Goldberg 1996 🛨	0.60 (0.57, 0.63	,	
Kuhn 2009	0.62 (0.55, 0.69	,	
Shanafelt 2012	0.63 (0.58, 0.68		
Hutchinson 2014	0.50 (0.33, 0.67		
Kotb 2014	0.39 (0.24, 0.58	,	
Xiao 2014	0.25 (0.20, 0.32		
Ben-Itzhak 2015	0.71 (0.60, 0.81		
Patterson 2017	0.25 (0.19, 0.33	8) 4.23	
de Stefano 2018	0.39 (0.22, 0.59	9) 3.80	
Alqahtani 2019 🛛 🗨	0.19 (0.12, 0.28	8) 4.22	
Dam 2019	- 0.78 (0.72, 0.83		
Oslon 2019	0.56 (0.50, 0.61	) 4.26	
Moukarzel 2019	0.51 (0.39, 0.62	2) 4.12	
Lim 2020		) 4.29	
Subtotal (I <sup>2</sup> = 97.78%, p = 0.00)	0.52 (0.41, 0.63	8) 58.17	
residents, physicians			
Escribà-Aquir 2007	0.37 (0.32, 0.42	9) 4 27	
Lu 2015	0.57 (0.46, 0.68	,	
Truchot 2018	0.09 (0.07, 0.12		
Subtotal (I <sup>A</sup> 2 = .%, p = .)	0.34 (0.08, 0.59	,	
residents			
Kimo 2014	0.65 (0.59, 0.71	) 4 25	
Lu 2017a	<ul> <li>0.69 (0.53, 0.82</li> </ul>		
Lu 2017b	0.53 (0.41, 0.66		
Lu 2018	0.78 (0.59, 0.89		
Williamson 2018	0.18 (0.14, 0.23		
Lin 2019	0.76 (0.74, 0.78		
Feeks 2020	0.31 (0.24, 0.39	,	
Subtotal (I <sup>2</sup> = 98.95%, p = 0.00)	0.56 (0.33, 0.78		
		, .	
Heterogeneity between groups: p = 0.380			
Overall (I^2 = 99.07%, p = 0.00);	0.51 (0.39, 0.62	2) 100.00	
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### Conclusion

Burnout among Emergency Medicine Physicians is an ongoing major health issue in clinical medicine. Identification of the potential risk factors for this disorder is crucial to ensure highrisk groups can be identified earlier and properly addressed.