



# *A Prescription for Positivity*

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# Disclosures (CME)

- I have no financial disclosures.

# Objectives

- Understand the scope of the problem of burnout on the medical profession
- Match chemical mediators to elements of resilience and positivity
- Discover strategies for educators to foster resilience and positivity in learners

# Other disclosures...

- I am not an psychiatrist
- I am a critical care physician, researcher, educator, administrator, husband, father, human

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- Anxious talking in front of crowds...

# The Problem

- We're the ones that are sick.

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**SCHOOL OF MEDICINE**

Dear IU School of Medicine Community:

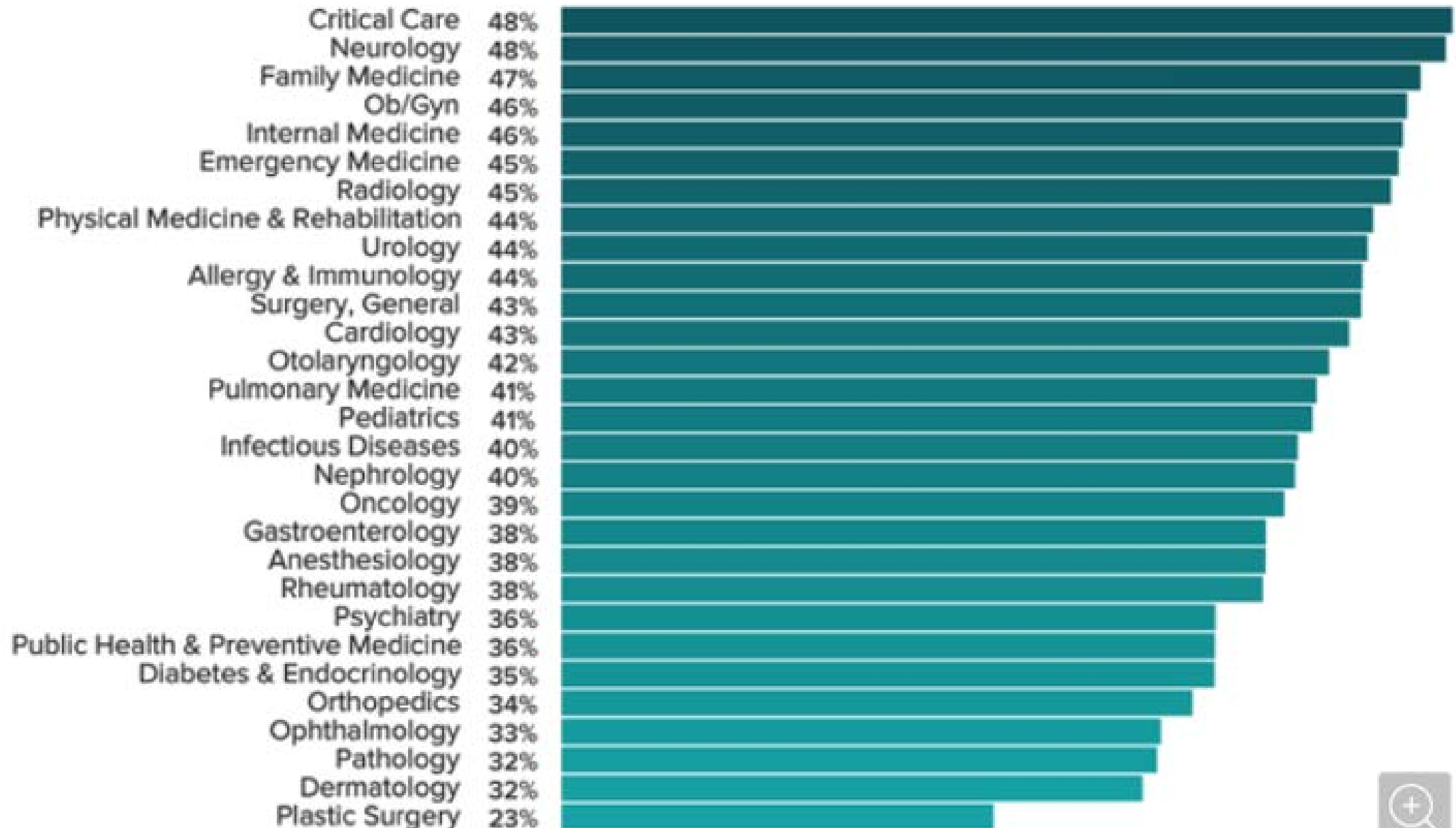
It is with great sadness that I share the news that one of our residents has died. Dr. \_\_\_\_\_ and a recent graduate of the University of \_\_\_\_\_

We send our condolences to \_\_\_\_\_ family and friends, and to faculty, staff and residents who worked and studied alongside him. News was shared with all available residents in the Department of \_\_\_\_\_ at a meeting this morning and with other members of the department shortly afterward.

\_\_\_\_\_ family has asked that we share that the cause of death was suicide. They expressed hope that being open about Dylan's death may encourage others who are suffering to seek help.

# Which Physicians Are Most Burned Out?

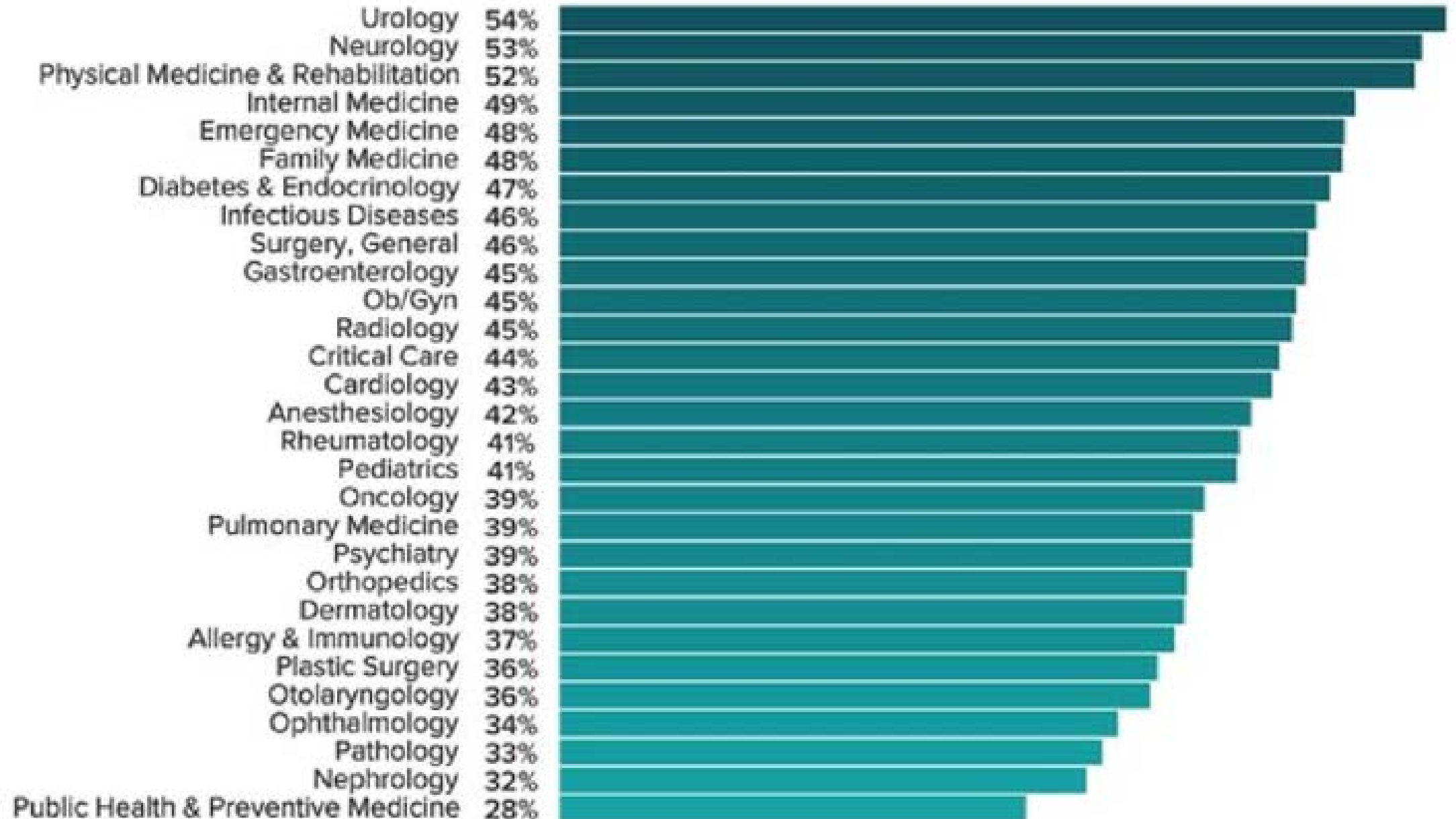
2018 Medscape Data (16,000 physicians)



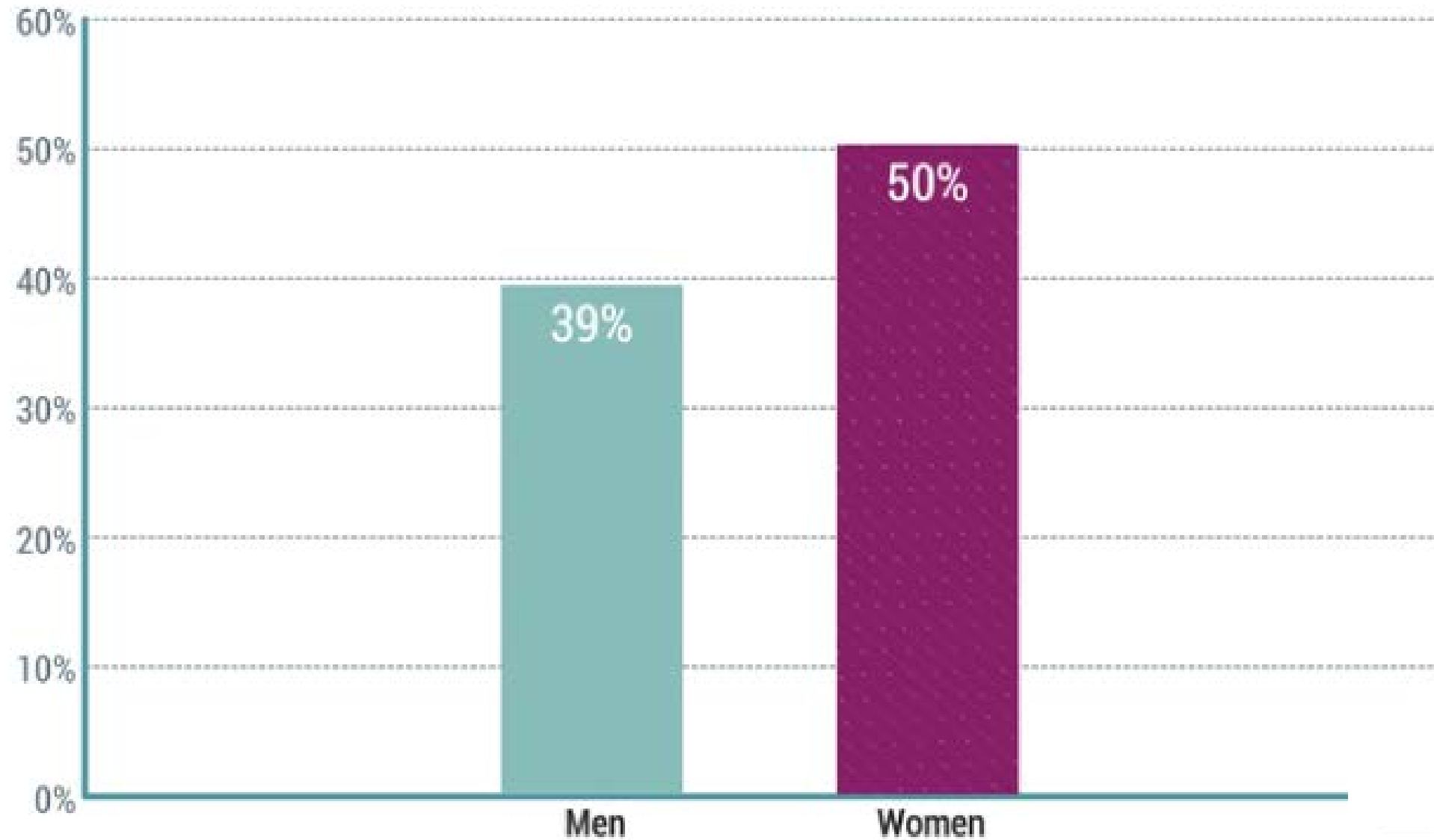


# Which Physicians Are Most Burned Out?

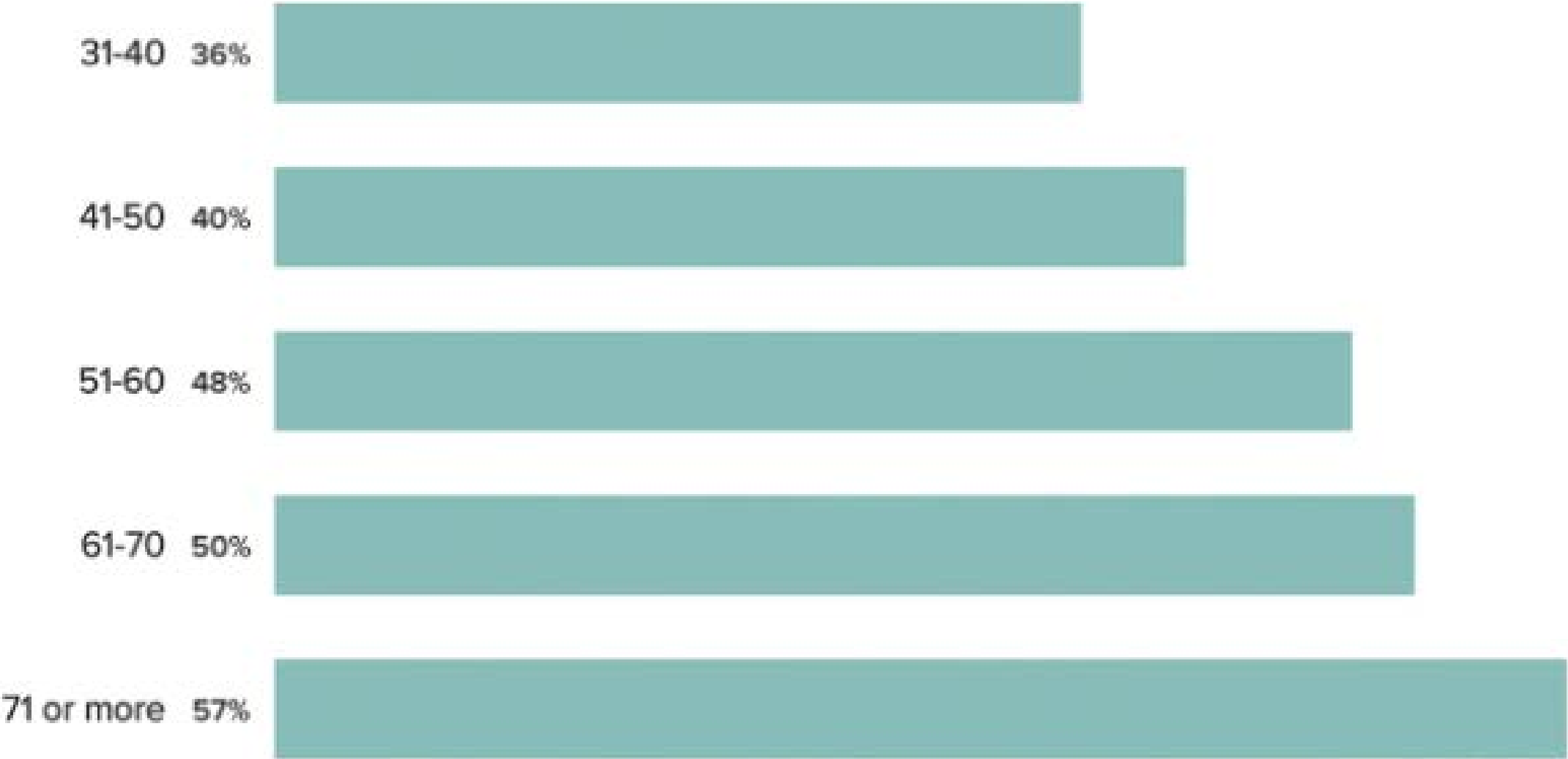
2019 Medscape Data (15,000 physicians)



## Are Male or Female Physicians More Burned Out?



# How Do Work Hours Correlate With Burnout?



# Burnout

- Pathologic condition which develops in response to prolonged occupational stress
- In residents, studies show burnout rates of 41-90%

# Causes of Burnout - trainees

- Too much time at work
- Feelings of isolation “silos”
- Having unrealistic goals imposed on oneself
- Length of training – delayed gratification
- Grief over patient care – poor outcomes



# Causes of Burnout - faculty

- Bureaucratic tasks (charting)
- Too much time at work
- Feelings of isolation “silos”
- Lack of respect from colleagues/employers
- Grief over patient care – poor outcomes
- Lack of control



# Consequences of Burnout

- Professional
  - Poor judgement in patient care (errors)
  - Difficult relationships with co-workers
  - Disengagement
- Personal
  - Depression
  - Anxiety
  - Sleep disturbance
  - Addictions
  - Marital dysfunction
  - Suicide



# The extreme consequences

- Higher rates of depression in medical students (up to 30%), interns (30%), and residents than the general population
- Lifetime rates of depression in women physicians higher (39%) compared to age-matched women with PhD's (30%) and both higher than general population
- Male physicians are 1.41 times more likely and females are 2.27 times more likely to commit suicide than the general population
- In one study up to 23 percent of interns had suicidal thoughts



# So how do we fix it?

- Heal thyself?
- Education?
- More administrative/organizational support?
- Counseling?

HOW TO TURN YOUR  
**NURSE  
BURNOUT**  
INTO RESILIENCE WITH EASE

[WWW.ELIZABETHSCALA.COM](http://WWW.ELIZABETHSCALA.COM)

medpage**TODAY's**

**KevinMD**.com

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ORIGINAL ARTICLE



## Impact of Organizational Leadership on Physician Burnout and Satisfaction

Tait D. Shanafelt, MD; Grace Goringe, MS; Ronald Menaker, EdD;  
Kristin A. Storz, MA; David Reeves, PhD; Steven J. Buskirk, MD; Jeff A. Sloan, PhD;  
and Stephen J. Swensen, MD





# NEJM Catalyst

⚙️ PHYSICIANS LEADING | LEADING PHYSICIANS

**Physician Well-Being: The  
Reciprocity of Practice Efficiency,  
Culture of Wellness, and Personal  
Resilience**

*“Maintaining personal resilience is primarily the obligation of the individual physician.”*

# Resilience

Resilience = “the ability to bounce back, to withstand hardship and adapt positively in the face of stress or disruptive change”

Based on a combination of factors

1. Internal attributes (genetics)
2. External (modeling)
3. Skills (practical)



# Prescribed “skills” to build resilience

- Realistic goal recognition
- Exercise, sleep, nutrition
- Supportive relationships
- Talking things out with others
- Personal relationships
- Humor
- Time off

# Attitudes about a Wellness Program

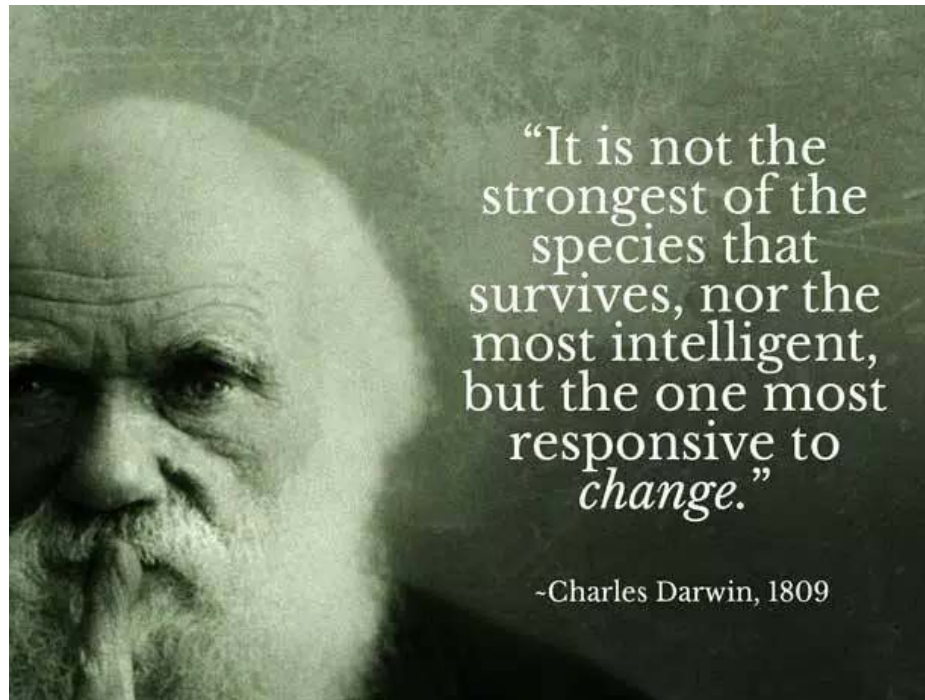
- Survey 800 residents and fellows
  - 71% response rate to survey
  - Time and questioning the helpfulness were biggest barriers
  - 5% willing to seek help

Why do these “skills” help?



# Our Chemical Dependency

Everything about us was designed to help us survive...including feelings of happiness.





# Endorphins

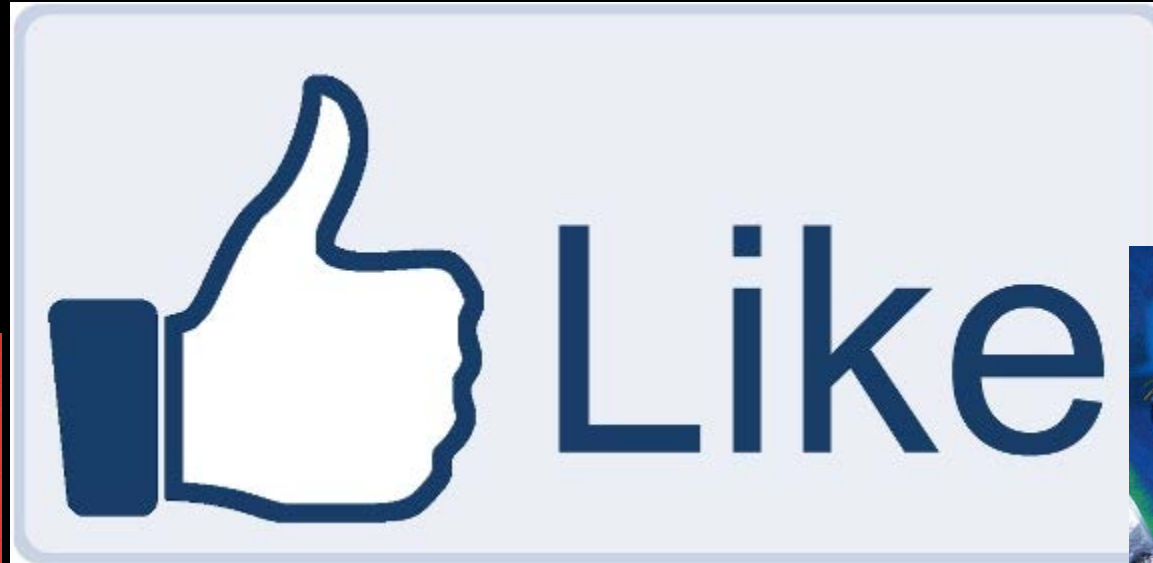


# Endorphins = “endogenous morphine”

- Produced in hypothalamus and pituitary gland
- Structurally similar to morphine -- “natural painkiller” which activates opioid receptors in the brain
- Induce feelings of euphoria and well-being



Serotonin



# Serotonin

- Brain production increases with exercise, sunlight, diet
- Low levels associated with clinical depression, anxiety, insomnia
- Provides feelings of significance, pride, status – to seek recognition of others



# Oxytocin



# Oxytocin



- Produced in hypothalamus and release in posterior pituitary
- Released in uterine stretch, breastfeeding and...serves to help in *bonding* with the baby and milk production
- In 2003 study humans and dogs had increase oxytocin levels in blood after up to a 20 minute petting session
- The “love” hormone – creates bonds between beings, trust, etc...why we date for more than a day!
- Boosts immune system (? Happy people live longer)
- 12<sup>th</sup> step

*Odendaal JS, Meintjes RA (2003). "Neurophysiological correlates of affiliative behaviour between humans and dogs". Veterinary Journal (London, England : 1997). 165 (3): 296–301.*



# DOPAMINE









# Also Dopamine...



# Dopamine

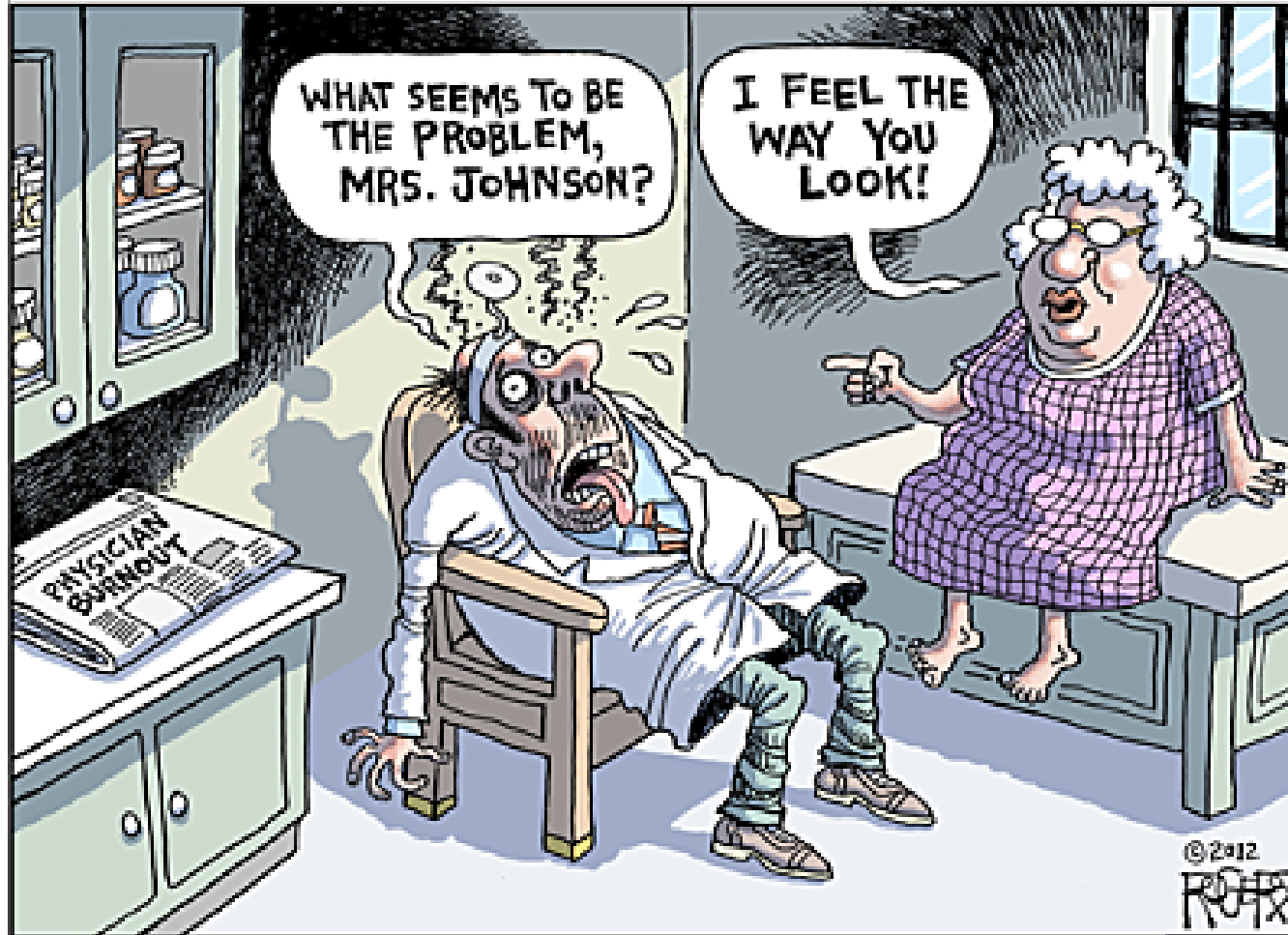


- Found in “reward and pleasure center” of brain
- Low levels = Parkinson’s disease, ADHD, RLS
- Release of dopamine during pleasure experiences creates a reward circuit – this circuit once created rewards us with “hits” of dopamine each time a step is taken towards the pleasure experience again

# Why does medicine burn us out?

## SECOND OPINION

BY ROB ROGERS



# Causes

- Length of training – delayed gratification ↓ DOPAMINE/SEROTONIN
- Work-life imbalance ↓ OXYTOCIN/ENDORPHINS
- Feelings of isolation from colleagues ↓ OXYTOCIN
- Setting unrealistic goals ↓ DOPAMINE
- Having unrealistic goals imposed on oneself ↓ DOPAMINE/SEROTONIN
- Grief over patient care – poor outcomes ↓ DOPAMINE/SEROTONIN

# Dopaminergic overload!

- Get patients discharged!
- Outcomes/Metrics!
- Work RVUs!
- Cell phones!
- Passing exams!
- Getting tenure!
- Grants, grants, grants!
- The next patient has been waiting over an hour...



Endorphins  
Serotonin  
Oxytocin



Dopamine

Endorphins  
Serotonin  
Oxytocin



Dopamine  
Cortisol



Why do these “skills” help?





- Realistic goal recognition → DOPAMINE
- Exercise, sleep, nutrition → ENDORPHINS, DOPAMINE, SEROTONIN
- Supportive relationships → OXYTOCIN
- Talking things out with others → OXYTOCIN
- Personal relationships → OXYTOCIN
- Humor → ENDORPHINS, DOPAMINE
- Time off → ENDORPHINS, SEROTONIN, OXYTOCIN

# A Prescription for Positivity

For \_\_\_\_\_  
Address \_\_\_\_\_ Date \_\_\_\_\_

**R<sub>x</sub>**

Endorphins – qday

Serotonin – qday

Oxytocin – qday and prn

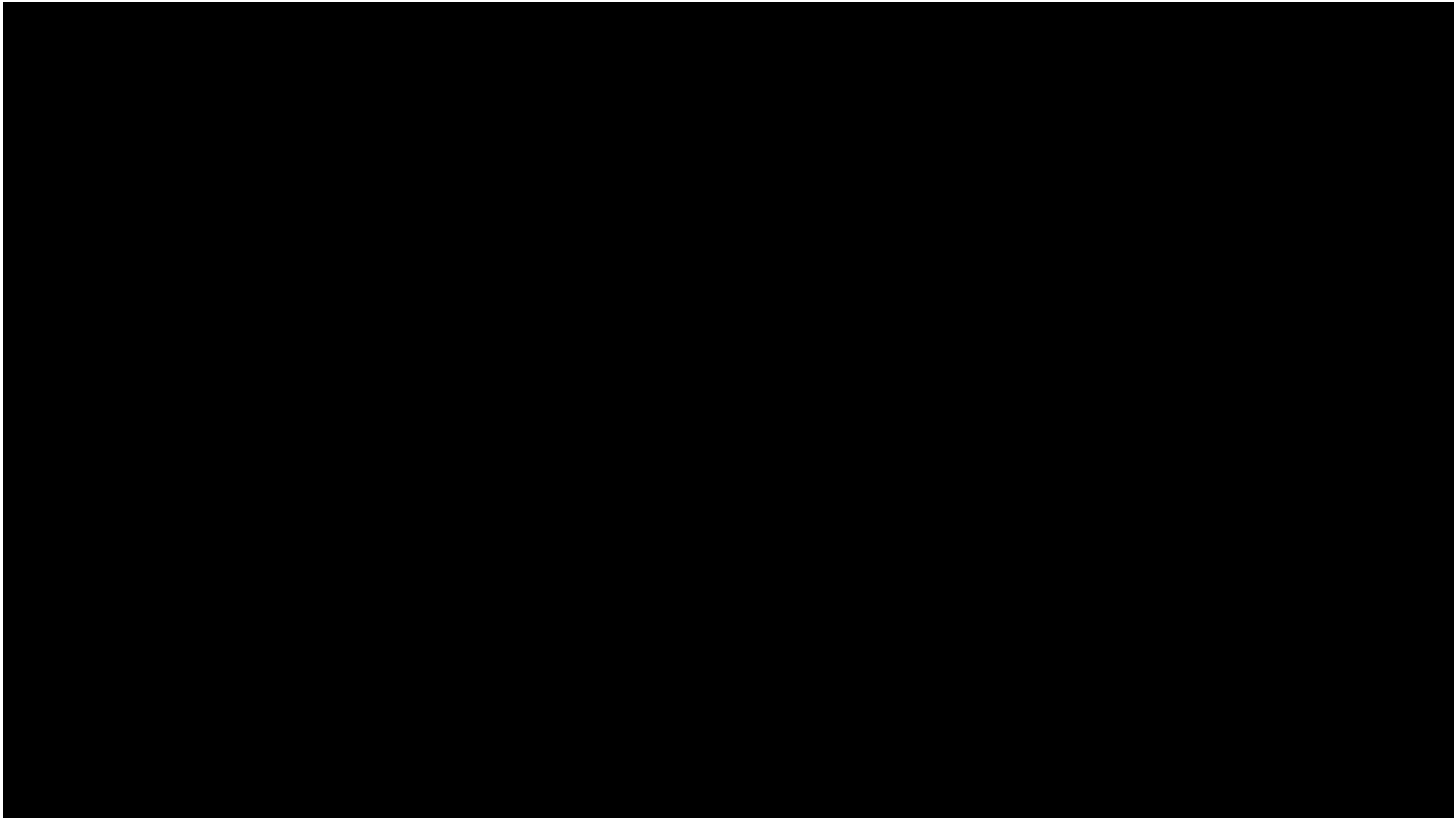
Dopamine – quantity sufficient



REFILL  $\infty$  TIMES \_\_\_\_\_ W. Graham Carlos \_\_\_\_\_, M.D.  
DEA NO. \_\_\_\_\_ Address 5/3 FOB 2<sup>nd</sup> Floor by big plant

# The cure





# Tips - aka “life hacks”

- Open your eyes -- empathy
- Send less e-mails, talk to people
- No cell phones out at meetings, at the dinner table, while waiting in line, while waiting to sleep.....
- Exercise
  - Bonus: better when you do it together
- Buy (or adopt) a dog!

# References available upon request

- **Inspiration:**

- Leaders Eat Last – Simon Sinek 2014
- The Biology of Desire – Marc Lewis 2016
- The Tennis Partner – Abraham Verghese 2011
- NEJM Catalyst - Physician Well Being 2017
- Medscape Natl. Physician Burnout Database 2018 & 2019
- Video: [https://www.youtube.com/watch?v=cDDWvj\\_q-o8](https://www.youtube.com/watch?v=cDDWvj_q-o8)

# Thank you!

- Questions?