

Health Technology for Reducing Burnout:

*Bridging Islands of
Innovation for the Future*

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Healthcare Labor Picture

534,000

Number of healthcare and social assistance workers **who quit their jobs** in August 2021 — the highest total going back to at least 2000, according to the U.S. Bureau of Labor Statistics

37,800-124,000

Range of the **projected shortage of physicians by 2034**, including up to 48,000 in primary care, according to the Association of American Medical Colleges

510,000

The pre-pandemic **estimate of the nursing shortage in 2030**, according to a 2017 study in the *American Journal of Medical Quality*

3.2 million

Projected **shortage of support staff by 2026**, according to Mercer, which examined “lower-wage healthcare occupations” such as medical assistants and home health aides

\$40,000

Average cost of turnover for a bedside RN position, according to hospital survey responses

18.7%

The **RN staff turnover rate** in 2020, up from 15.9% in 2019

24.9%

The **RN staff turnover rate** in 2020 for hospitals in the Southeast, highest among five regions

13.2%

The **RN staff turnover rate** for hospitals in the Northeast, lowest among the five regions

STATISTICS



Overall Healthcare Workers

- Average Hospital turnover **19.5%**
- Average turnover of employees w/ <1 year **30.1%**
- Healthcare workers report not having adequate emotional support **39%**
- Healthcare providers considering retiring, quitting, changing jobs/careers **48%**
- Healthcare workers reporting exhaustion & burnout **76%**

Physicians in Crisis

- **More than half of physicians surveyed reported at least one burnout manifestation**
- **30%** of primary care physicians age 35 to 39 plan to leave practice within 5 years
- Only **1 in 10** physicians would recommend medicine as a career

Nurses In Crisis

- **63% of nurses report symptoms of burnout**
- RN vacancy rate March 2021 **9.9%**
- **44%** worry patient care suffered because they were so tired
- **41%** consider changing hospitals due to burnout

Workforce Crisis & Burnout

The root cause of burnout is the workplace not the worker.
Address burnout by transforming the workplace.



Address Work Overload



Adjust to new models of care



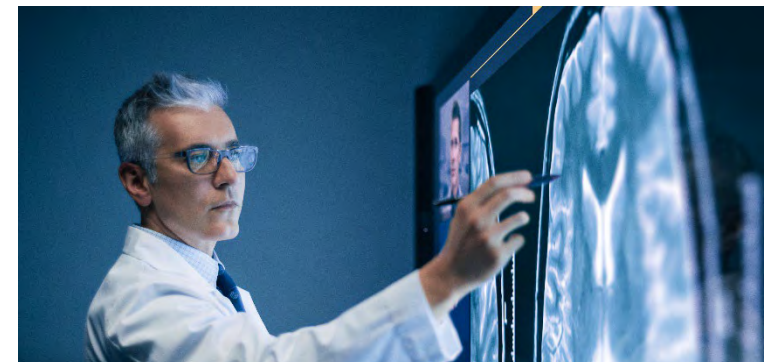
Improve Rewards and Recognition



Enhance & Expand Community



Improve Equity and Fairness



Build a culture of Well-Being

Key Factors Associated with Burnout

- Overworked
- Stressful environment
- Inadequate staffing

- EHR workload



Original Investigation | Health Policy

Prevalence of and Factors Associated With Nurse Burnout in the US

Megha K. Shah, MD, MSc; Nikhila Gandrakota, MBBS, MPH; Jeannie P. Cimiotti, PhD, RN; Neena Ghose, MD, MS; Miranda Moore, PhD; Mohammed K. Ali, MBChB, MSc, MBA

JAMA Network Open. 2021;4(2):e2036469.



Original Investigation | Health Informatics

Analysis of Electronic Health Record Use and Clinical Productivity and Their Association With Physician Turnover

Edward R. Melnick, MD, MHS; Allan Fong, MS; Bidisha Nath, MBBS, MPH; Brian Williams, MD; Raj M. Ratwani, PhD; Richard Goldstein, MD, PhD; Ryan T. O'Connell, MD; Christine A. Sinsky, MD; Daniel Marchalik, MD; Mihriye Mete, PhD

JAMA Network Open. 2021;4(10):e2128790. doi:10.1001/jamanetworkopen.2021.28790

EHR InBasket Automation

Automated Patient Messaging Triage, Language Translation and EHR Workflows.

KEY FEATURES

- **Classify message content using [Natural Language Processing \(NLP\) Deep Learning \(DL\)](#).**
- **Triaged using [FHIR and EHR queues](#)** for downstream processing by care team members.
- **Bi-directionally translated** patient messages from 40+ languages.
- **Contact patients** using [automated communication services](#), with warm transfer call to an appropriate care team members.



Preventing Delayed and Missed Care by Applying Artificial Intelligence to Trigger Radiology Imaging Follow-up

- 13 months
- 570k images
- 29k (5.1%) with findings requiring f/u
- NEJM Catalyst. April 2022

