Health Technology for Reducing Burnout:

*Bridging Islands of Innovation for the Future*

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### Healthcare Labor Picture

<table>
<thead>
<tr>
<th>Number of Workers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>534,000</td>
<td>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</td>
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<tr>
<td>37,800-124,000</td>
<td>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</td>
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<tr>
<td>510,000</td>
<td>The pre-pandemic estimate of the nursing shortage in 2030, according to a 2017 study in the <em>American Journal of Medical Quality</em></td>
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<td>3.2 million</td>
<td>Projected shortage of support staff by 2026, according to Mercer, which examined “lower-wage healthcare occupations” such as medical assistants and home health aides</td>
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<tr>
<td>$40,000</td>
<td>Average cost of turnover for a bedside RN position, according to hospital survey responses</td>
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</tbody>
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### 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

Modified from Source: Maslach and Leiter
Key Factors Associated with Burnout

- Overworked
- Stressful environment
- Inadequate staffing
- EHR workload
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