



# Healthcare Professionals Mental Health: What the Data Tells Us

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# Executive Summary

In early 2021, approximately 1,500 healthcare workers in Singapore resigned (Channel News Asia<sup>1</sup>, 2021). In our synthetic dataset of 5,000 healthcare professionals, about 66% expressed an intention to leave their roles.

## What We Did

- Applied statistical and predictive methods to analyze workplace factors linked to turnover
- Built an interactive dashboard for department-level insights

## Key Findings

- 83% experienced occasional and frequent burnout
- Low job satisfaction and more mental health absences are linked to turnover
- Heavy workload is the top stressor
- 28% lack access to Employee Assistance Programs (EAPs)

## Predictive Model

- Logistic Regression was chosen for reliability and easy interpretation
- High ability to identify at-risk staff

## Recommendations

- Support high-risk staff early
- Workload re-distribution, staffing adjustment
- Expand EAP and monitor effectiveness

# Problem Statement



## The Challenges in Retaining Healthcare Professionals



# Problem



## Current Situation

High stress, burnout, and job dissatisfaction are driving healthcare staff turnover, impacting patient care.

## What's Available

Support programs exist, but access is uneven and data-driven action is limited

## What Success Looks Like

Department heads can use insights to identify at-risk staff early, support workforce well-being to reduce attrition



# Objective

## Goal

- Identify key drivers of burnout and turnover intention among healthcare staff
- Develop a predictive model to flag high-risk individuals
- Provide actionable, data-driven insights and tools for intervention

## Target Audience

Department heads responsible for managing healthcare teams and retaining staff

## Case for Action

- To support employee well-being and mental health
- To reduce staff attrition and burnout
- To ensure continuity and quality of patient care



# Data Source

- Healthcare Workforce Mental Health Dataset (Kaggle<sup>1</sup>)
- 5,000 synthetic records

## + Data Cleaning

- Ready for analysis without major preprocessing
- No duplicates or missing values
- Column dropped as it contained overlapping information

## + Variables

- Employee details
- Workplace Factor
- Stress level
- Burnout frequency
- Job satisfaction
- Access to EAPs
- Mental health absences
- Turnover intention

<sup>1</sup> <https://www.kaggle.com/datasets/rivalytics/healthcare-workforce-mental-health-dataset>

# Limitation

## Synthetic Dataset

- The data used is artificially generated
- May not fully reflect the real-world complexity or behavior of healthcare professionals




## Lack of Personal Context

- Does not account for individual mental health history, personal stressors, or coping strategies
- Missing interpersonal and organizational dynamics that may influence burnout or turnover






# Findings


## ① Burnout & Turnover Are Widespread

-  66% of staff intend to leave their roles
-  83% experience occasional or frequent burnout
-  Heavy workload is the top stressor reported

## ② Mental Health Strain Evident

-  High stress (8–9/10) and low job satisfaction (2/5) reported
-  Mental health absences (5–7.5 days) are common
-  Low job satisfaction and more mental health absences are linked to turnover

## ③ Gaps in Support Access

-  28% does not have access to Employee Assistance programme





# Approach

## Predictive Analysis using Logistic Regression

	Train	Test
Accuracy	74.3%	74.6%
Precision	76%	77%
Recall	90%	88%

Strong recall means the model effectively flags most at-risk staff

## Interactive Dashboard for Department Insights

Enables department heads to explore by department:

- Turnover Intention
- Burnout Frequency
- Job satisfaction vs workplace stressors

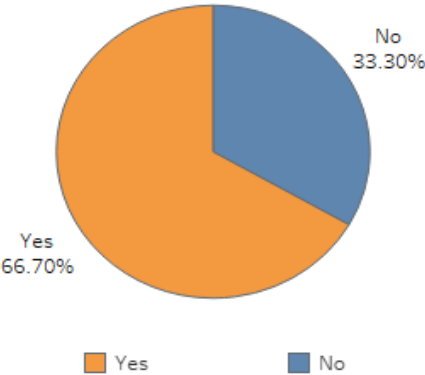


# All - Overview

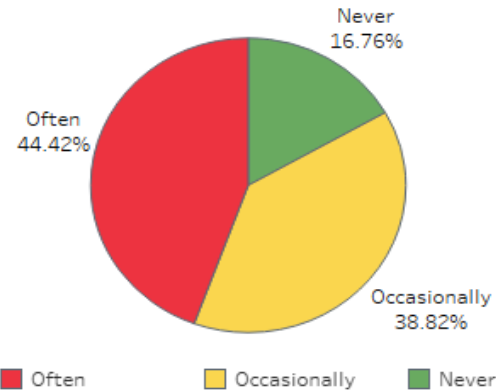
Select Department:

(All) ▼

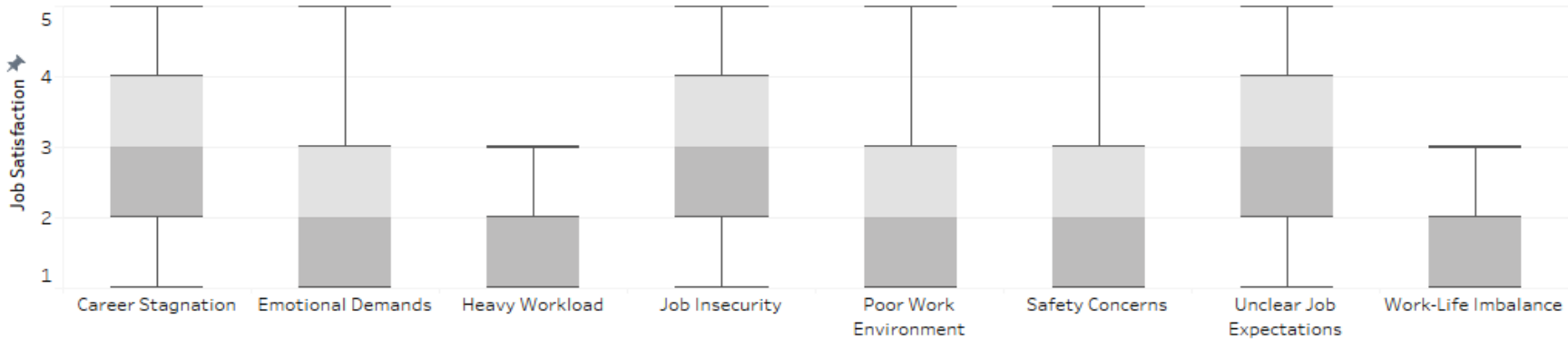
Turnover Intention



Burnout Frequency



Workplace Factor



# Recommendation

## Support High-Risk Staff Early

- Use the model to identify high-risk department
- Prioritize check-ins and mental health support for individuals who reach out for help

## Tackle Burnout Drivers

- Address “Heavy workload” by considering workload redistribution, staffing adjustments, or workflow redesign

## Expand Mental Health Support

- Broaden access to EAPs and actively promote usage
- Monitor effectiveness over time

# Next Step

## Evaluate Impact

- Use pre- and post-intervention data to track changes in job satisfaction and turnover intention

## Inter- Departments Collaboration

- Partner with HR and leadership to tailor support for high-risk groups
- Advocate for well-being policy improvements

## Improve Data Collection

- Collect insights on work schedule variability, managerial support, and participation in wellness programme
- Enhance model accuracy and intervention targeting





**THANK YOU!**

