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Research Article

PREVALENCE OF BURNOUT AMONG ICU NURSES AT DAMMAM HEALTH NETWORK DURING 2021-2022 (CROSS-SECTIONAL STUDY)

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Abstract:

Background: *The intensive care unit ICU is one of the most stressful places and the nurses in the ICU are highly prone to burnout.*

In Dammam medical complex (DMC) the burnout studies are limited therefore this study aimed to measure the level of burnout among nurses working in the ICU adult at DMC

Methods: *a descriptive cross-sectional study. Conducted at the ICU adult in Dammam medical complex in the kingdom of Saudi Arabia, from 2021 to 2022, 73 nurses were involved in the study from 120 nurses working in ICU, A self-administered questionnaire was used the Maslach Burnout Inventory Human Services Survey to collect the data. The data were analyzed using IBM SPSS version 29.0.0.0(241)*

Results: *Based on a sample size of 73 nurses who participated in the questionnaire out of 120 nurses meeting the inclusion criteria for burnout prevalence among ICU nurses in DMC during 2021 -2022. Total Score using MBI-HSS Showed the following result: 5 out of the 73 ICU nurses who had done the survey had **Engaged** profile scores on all three scales: low on Emotional Exhaustion and Depersonalization and high on Personal Accomplishment. While 11 ICU nurses with an **Ineffective** profile, have a low Personal Accomplishment score. The Ineffective profile is characterized by diminished feelings of competence and achievement in one's work. There were 30 ICU nurses with an **Overextended** profile, they have a different psychological experience, shown by a high Emotional Exhaustion score. The **Disengaged** profile in this study is zero, features of this profile will be a high Depersonalization score which signals a crisis in values or diminished confidence in management. While the previous three profiles are characterized by one problematic scale score the **Burnout ICU nurses**, the account of ICU nurses with a burnout profile is 27, this profile has problematic results on both Emotional Exhaustion and Depersonalization. emotional exhaustion with a total average (mean) of 37.23, a max score of 53/60 with a Standard deviation of 11.129, Emotional exhaustion of this severity and prevalence will affect the work performance and quality of care given to the patients. While the depersonalization score with a total average(mean) of 12.11, the max score is 30/60 with a standard deviation of 7.08. Moderate intensity may affect the work performance and quality of care given to patients. At the same time, some of The ICU Staff suffer from a Lack of Personal Accomplishment with a total average of 33.03, and a max score of 45 /60 with a standard deviation of 7.02. **Conclusion:** *The study found that nurses have relatively high levels of burnout due to high workload and low personal accomplishment to leave ICU at any chance given within the same year.**

Keywords: *Burnout, ICU, Level of burnout among nurses in ICU, level of burnout among nurses, burnout and intensive care unit nurses, critical care.*

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INTRODUCTION:

Burnout is a stress condition that develops at work as a result of ongoing exposure to pressure. Psychoanalyst Freudenberg first coined the phrase in the early 1970s, and Maslach et al. later described it as having three qualitative characteristics, namely emotional weariness, cynicism, and depersonalization. decreased personal and professional accomplishment. [1-4]

Burnout can occur in any kind of profession. [5] It is well known that the intensive care unit (ICU) workplace may be demanding. More than the physical task, dealing with extremely ill patients psychologically causes extreme mental stress for all ICU healthcare professionals. [6-7]

If this stress lasts for a while, it can eventually lead to burnout, which can lower personal wellbeing, increase absenteeism, increase errors, and ultimately harm patient care. [8]

Literature review:

Around the world, different reports of burnout have been made. For instance, in Europe, there is a disparity between the nations that are members of the European Union (10%) and those who are not (10%). Burnout rates range from 4.3% in Finland to 20.6% in Slovenia among members of the European Union, and from 13% in Albania to 25% in Turkey among non-members. This study also revealed that country-level burnout seems to be positively correlated with workload. [9]

According to a 2020 research that used the metanalysis technique, the effects of burnout include lower work satisfaction, absenteeism, staff turnover, and cynicism. These impacts at work often have an impact on personal life, resulting in negative emotions, anxiety, sadness, loneliness, drug misuse, tense and strained relationships, and divorce. [10]

A cross-sectional study on stress and burnout was conducted in 2019 among intensive care unit healthcare professionals in an Indian tertiary care hospital. In the survey as a whole, 80% of participants had significant levels of burnout, including 6% of physicians and 69% of nurses. demonstrated a statistically significant relationship between burnout and work satisfaction. The Maslach burnout inventory's emotional fatigue and depersonalization categories and stress levels were shown to be significantly correlated. [11]

In order to examine the extent of burnout and its contributing causes among doctors and nurses working in ICUs in mainland China in 2021, a nationwide cross-sectional research was conducted. the use of a cross-sectional study. The burnout rate among ICU physicians and nurses in mainland China is 69.7%, with a total of 2411 ICU professionals involved. [12]

2017 saw the publication of a research on burnout in nurses working in critical care settings, with a focus on a particular Rwandan tertiary hospital. A descriptive cross-sectional design was adopted, and the results revealed that 61.7% of the participants in the study had significant levels of burnout. Burnout was connected with a high workload and an intention to leave (p 0.05). High Depersonalization (25%), High Emotional Exhaustion (48.3%), and Low Personal Achievement (50%) are all present. ICU and emergency department nurses have been shown to have a significant level of burnout, which is mostly attributed to their heavy workloads and desire to quit their jobs within the next 12 months. [13]

a research on burnout among clinicians working in acute care units, a 2016 systematic review The included studies found a wide range of burnout among ICU staff, from 6% to 47%. Age, sex, marital status, personality features, prior ICU job experience, work environment, workload, shift work, ethical concerns,

and end-of-life decision-making have all been linked to burnout. [14]

Another research was conducted in a context that included all Swiss ICUs with certification. According to national regulations in 2011, the Swiss Society of Intensive Care offers certification. A cross-sectional research using the Maslach questionnaire, Of the 2,996 respondents, 874 (29%) had high burnout, 995 (33%) medium burnout, and 1,167 (39%) moderate burnout. The median MBI score was -17.0, and the mean MBI score was -15.6 15 (mean SD) (interquartile range, 20). 48 of 117 nurse assistants, 683 of 2,415 nurses, and 143 of 459 physicians all had high levels of burnout. The ICU centers' rates of high levels of burnout varied from 5 to 62%, with a mean of 29%. 48 of 117 nursing assistants (41%) and 683 of 2,415 nurses (28%) as well as 143 of 459 doctors (31%) all had high levels of burnout. With a mean of 28%, the proportion of ICU facilities with significant levels of burnout varied from 5 to 62%. [15]

Significance:

This study is significant as it focuses on the three scales of MBI-HSS that affect burnout, understanding it, but also offers the solutions for burnout that affects the ICU nurses in DHN.

Objectives:

- The relationship between the risk factors and burnout by the tool of MBI-HSS scales by questionnaire
The MBI measures burnout as defined by the World Health Organization (WHO) and in the ICD-11.
- assess the level of burnout among ICU nurses in DHN based on MBI-HSS scales
- offering solutions and interventions

Methodology:

a descriptive cross-sectional study. Conducted at the ICU adult in Dammam medical complex in the kingdom of Saudi Arabia, from 2021 to 2022, 73 nurses were involved in the study from 120 nurses working in ICU, A self-administered questionnaire was used the Maslach Burnout Inventory Human Services Survey to collect the data. The data were analyzed using IBM SPSS version 29.0.0.0(241)

- *Study design:*

this is a descriptive cross-sectional study.

Conducted at ICU adult in Dammam medical complex in the kingdom of Saudi Arabia, from 2021 to 2022

- *sampling method:*

using Systematic sampling, the selection of 73 ICU nurses was based on who will approve to take the questionnaire from an entire total of 120 ICU nurses. through a self-administered questionnaire (the Maslach Burnout Inventory Human Service Survey)¹⁶ to collect data.

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- *Inclusion criteria:*

The sample consists of ICU nurses who worked in ICU during 2021-2022 and still working at DMC

- *exclusion criteria:*

nurses working in other wards or working in other facilities will not be included
nurses who are not working at DMC ICU at present of the study.

- *sampling size:*

the selection of 73 ICU nurses based on who will approve taking the questionnaire from an entire population of a total of 120 nurses who are working at present in the ICU.

Measurement scales:

- *Emotional exhaustion:*

The emotional overextending and exhaustion by working in ICU

- *Depersonalization:*

The unfeeling and impersonal response towards patients, treatment, or instructions

- *Personal accomplishment:*

The feeling of competence and achievement in the ICU

Outcome measures:

Will be measured by counting the ratio of the number of ICU nurses who have burnout, and what level they have, according to the MBI-HSS scale questionnaire responses and answers provided by ICU nurses.

Results:

Based on a sample size of 73 nurses who participated in the questionnaire out of 120 nurses meeting the inclusion criteria for burnout prevalence among ICU nurses in DMC during 2021 -2022, the study found that nurses had a high level of burnout intending to leave due to high workload.

The table below summarizes the participant count in each Burnout profile.

Profiles	Number of participants	Emotional exhaustion	Depersonalization	Personal accomplishment
Engaged	5	Low	Low	High
Ineffective	11	-	-	Low
Overextended	30	High	-	-
Disengaged	0	-	high	-
Burnout	27	High	high	-
Total	73			

The profiles are described as Engaged, Ineffective, Overextended, Disengaged, and Burnout. People with different burnout profiles have different workplace experiences. As such, the interventions and methods used to ameliorate and prevent burnout may differ by profile.

5 out of the 73 ICU nurses who had done the survey had **Engaged** profile scores on all three scales: low on Emotional Exhaustion and Depersonalization and high on Personal Accomplishment.

While 11 ICU nurses with an **Ineffective** profile, have a low Personal Accomplishment score. The Ineffective profile is characterized by diminished feelings of competence and achievement in one's work. This reflects a loss of confidence in one's capabilities — perhaps because of work that feels tedious or an environment that offers little recognition for a job well done.

There were 30 ICU nurses with an **Overextended** profile, they have a different psychological experience, shown by a high Emotional Exhaustion score. This might be the profile of a nurse who is dedicated to the job and who derives a strong sense of accomplishment from the work yet feels emotionally exhausted due to long work hours and disrupted recovery opportunities. This nurse is fulfilled and involved, but emotionally drained.

The **Disengaged** profile in this study is zero, features of this profile will be a high Depersonalization score which signals a crisis in values or diminished confidence in management. The disengaged person has energy and confidence in his competence but finds it difficult to dedicate himself to his work.

While the previous three profiles are characterized by one problematic scale score the **Burnout ICU nurses**, the account of ICU nurses with a burnout profile is 27, this profile has problematic results on both Emotional Exhaustion and Depersonalization.

The most effective remedies to treat or prevent burnout will vary depending on the profile. For example, a person who fits the Overextended profile may be most responsive to workload-oriented interventions. By contrast, someone who fits the Disengaged profile may benefit more from interventions designed to improve social relationships among co-workers.

The continuum between work engagement and burnout comprises three distinct aspects or scales: energy, involvement, and efficacy. Each aspect is expressed positively in Engagement (vigor, connection, and efficacy) and expressed negatively in Burnout (exhaustion, depersonalization, and inefficacy). Although correlated, the three aspects do not move in lockstep, and they can move asynchronously. These combinations create distinct profiles in the space between engagement and burnout.

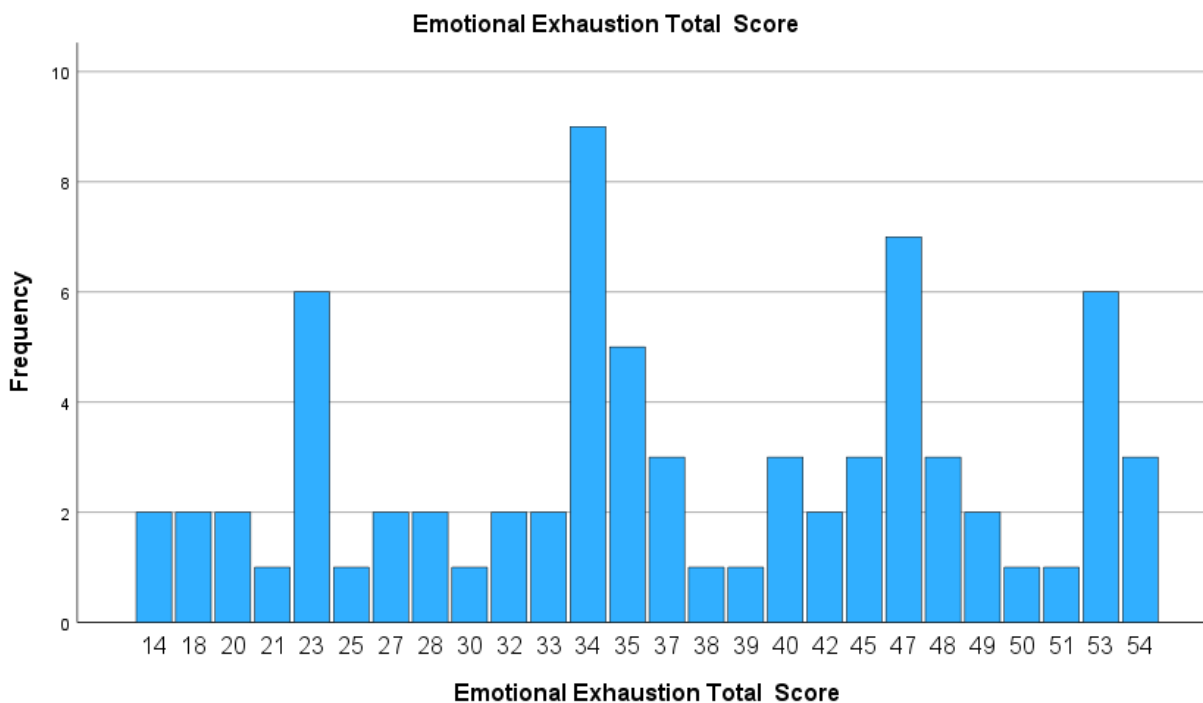
Average scores per MBI item:

The group's average scores are listed below by scale. Within each scale, item scores are ranked by possible contribution to burnout. Feeling aspects of Emotional Exhaustion (EE) or Depersonalization (DP) more frequently can contribute to burnout. EE and DP scales use high-to-low score ranking — high scores here may signal a problem. Conversely, feeling aspects of Personal Accomplishment (PA) less frequently can contribute to burnout. The PA scale uses a low-to-high score ranking — low scores here may signal a problem.

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

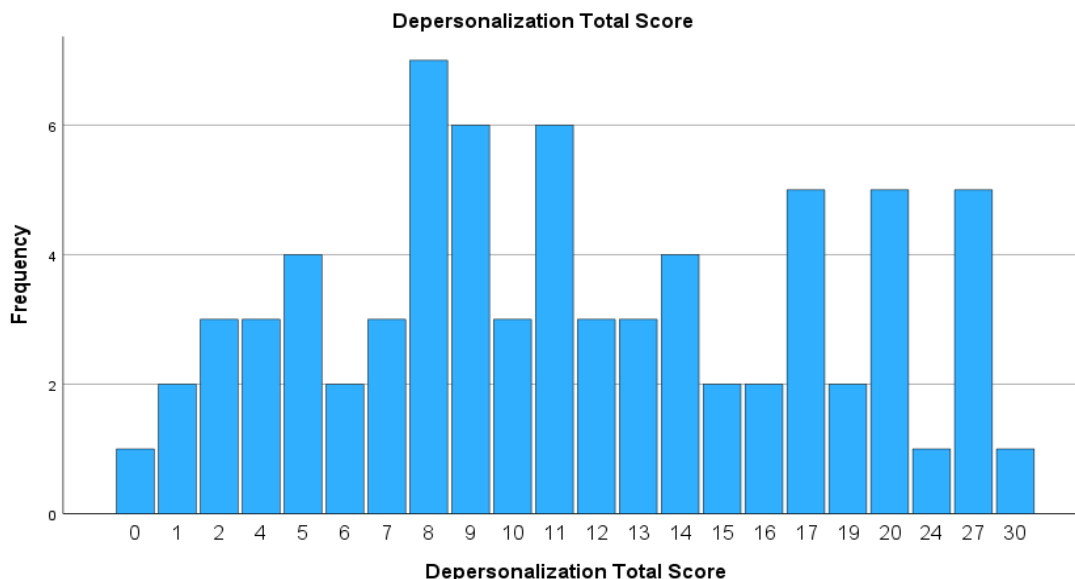
Emotional Exhaustion:

Score	Scale	Item
5	Emotional Exhaustion	I feel I'm working too hard on my job.
4.8	Emotional Exhaustion	I feel used up at the end of the workday.
4.7	Emotional Exhaustion	I feel burned out from my work.
4.6	Emotional Exhaustion	I feel emotionally drained from my work.
4.4	Emotional Exhaustion	I feel fatigued when I get up in the morning and have to face another day on the job.
3.9	Emotional Exhaustion	I feel frustrated by my job.
3.5	Emotional Exhaustion	Working with people directly puts too much stress on me.
3.5	Emotional Exhaustion	Working with people all day is a strain for me.
2.8	Emotional Exhaustion	I feel like I'm at the end of my rope.



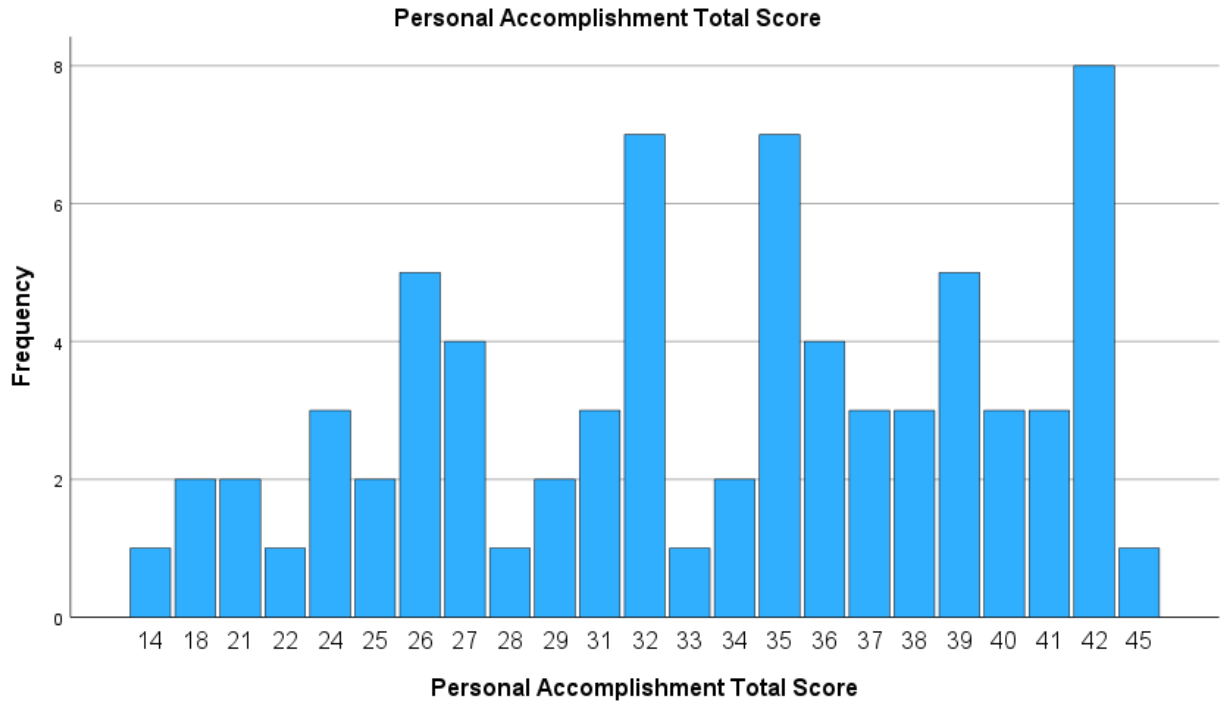
Depersonalization:

Score	Scale	Item
4.1	Depersonalization	I worry that this job is hardening me emotionally.
2.6	Depersonalization	I feel I treat some recipients as if they were impersonal objects.
2.5	Depersonalization	I've become more callous toward people since I took this job.
2.2	Depersonalization	I feel recipients blame me for some of their problems.
0.6	Depersonalization	I don't care what happens to some recipients.



Personal Accomplishment:

Score	Scale	Item
3.6	Personal Accomplishment	I can easily create a relaxed atmosphere with my recipients.
3.6	Personal Accomplishment	I have accomplished many worthwhile things in this job.
3.8	Personal Accomplishment	I feel very energetic.
3.9	Personal Accomplishment	I feel exhilarated after working closely with my recipients.
4.1	Personal Accomplishment	In my work, I deal with emotional problems very calmly.
4.3	Personal Accomplishment	I feel I'm positively influencing other people's lives through my work.
4.8	Personal Accomplishment	I can easily understand how my recipients feel about things.
4.9	Personal Accomplishment	I deal very effectively with the problems of my recipients.



A-Average scores scale (From 0-6)

As we mention before Higher Emotional Exhaustion and higher Depersonalization with low accomplishment **contribute** to burnout, while low Emotional Exhaustion and low Depersonalization with higher Personal Accomplishment **reduce** burnout.

Frequency scores from a general population of 11,000+ people in the human services professions from the Maslach Burnout Inventory™ Human Services Survey (MBI-HSS) are included for comparison. [16]



B- Standard Deviations (from 0-3)

The standard deviation measures the variation in responses within the group. The smaller the standard deviation, the higher the agreement among group members. A value of 0.0 would mean complete agreement among group members.

Standard deviations from a general population of 11,000+ people in the human services professions from the Maslach Burnout Inventory™ Human Services Survey (MBI-HSS) are included for comparison. [16]



Total Score using MBI-HSS Showed the following result:

emotional exhaustion with a total average (mean) of 37.23, a max score of 53/60 with a Standard deviation of 11.129, Emotional exhaustion of this severity and prevalence will affect the work performance and quality of care given to the patients. While the depersonalization score with a total

average(mean) of 12.11, the max score is 30/60 with a standard deviation of 7.08. Moderate intensity may affect the work performance and quality of care given to patients. Meanwhile, some of The ICU Staff suffer from a Lack of Personal Accomplishment with a total average of 33.03, and a max score of 45 /60 with a standard deviation of 7.02.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Emotional Exhaustion	73	1.6	6.0	4.141	1.2273
Depersonalization	73	.0	6.0	2.422	1.4160
Personal Accomplishment	73	1.8	5.6	4.145	.8789
Emotional Exhaustion Total Score	73	14	54	37.23	11.129
Depersonalization Total Score	73	0	30	12.11	7.080
Personal Accomplishment Total Score	73	14	45	33.03	7.028

DISCUSSION AND RECOMMENDATION: [17-20]

Burnout threatens the sustainability of our healthcare delivery system, the well-being and engagement of healthcare professionals, and the quality and safety of the care that patients receive. If the hospital or medical group that you part of or in which you practice is typical, more than half of nurses are experiencing burnout symptoms, and the majority of nurses and staff think that their leaders don't care.

The most effective way to prevent nurse burnout is to change the organizational structure and processes that lead to burnout. However, most healthcare leaders are concerned that the changes typically recommended reducing the risk of nurse burnout — for example, decreasing the number of patients seen per day, taking more time off, or participating in wellness activities will also reduce revenues or increase expenses, putting the financial viability of the organization at risk. The irony is that not addressing nurses' burnout is a recipe for putting the organization's fiscal health in jeopardy.

We wish we could tell you that there is a single, easy solution to the problem of nurse burnout, but that is not the case. Nurses' burnout is driven by a multitude of underlying root causes for which there are no quick fixes. A healthcare organization that leaps into strategies to address burnout without fully understanding the root causes in each clinical setting is unlikely to successfully create a healthy workplace that is adaptable to external pressures and can prevent burnout over the long term.

We recommend you begin a journey to understand and address the drivers of burnout in each setting. Consider using a **Lean management system** to address both the drivers of nurse burnout and the underlying problems that hinder your organization's efforts to improve the experience of care, improve the health of populations, and reduce the costs of care. In this way, the organization can foster an environment in which leaders, managers, and frontline clinicians can work in partnership with nurses to address the workplace drivers of burnout.

Lean is a management system and philosophy based on two simple principles: Continuous Improvement and Respect for People. A primary Lean goal is creating a mindset and capacity in every worker such that continually looking for places to improve is second nature. Workers complete small tests of change in their daily work and come to view their

responsibilities as two-fold: doing the work and improving on the work. Respect for People means creating an organization that supports a healthy work-life balance. It fosters a culture in which workers are educated, engaged, trusted, structured, and incentivized to participate. Systems, not people, are the source of problems in the organization.

The target state is one in which the workplace is efficient, stable, and reliable; where people treat each other with respect, where frontline clinicians and managers solve problems rapidly in collaboration with nurses, where stakeholders are aligned around caring for the patient and striving to achieve optimal quality, cost, and service, and where nurses are engaged in all aspects of work redesign and continuous improvement.

A Call to Action: Leaders First:

We make our recommendations to executive leaders because experience and interviews with experts have convinced us that their action is critical in addressing the workplace problems that drive nurse burnout. These individuals play an important role in ensuring that the drivers of burnout are addressed. After all, they have ultimate responsibility for the financial well-being of the organization, which burnout will adversely affect, because they can direct necessary resources toward addressing the underlying problems that drive burnout and because they are responsible for hiring and ensuring the effectiveness of the CEO.

Executive leaders must act in two primary ways. They must build the capacity of the organization to address burnout, and they must take targeted action to fix the underlying drivers of burnout on all three levels: individual nurses, workplace drivers, and external drivers.

Build Capacity:

Building the capacity of the organization to address burnout requires adopting processes for: identifying the incidence of burnout; uncovering the causes of burnout; and developing your knowledge about burnout.

Learn about burnout in your organization. You must gather information so that you and your leadership team are knowledgeable about burnout in general and the incidence and impact of burnout at the organization in particular.

To gather information, we recommend the following three steps:

1. Conduct regular surveys for nurses to monitor the incidence of burnout, and identify sources of dissatisfaction.
2. Go to the frontline workplace, to see the existing barriers and frustrations. Create opportunities to speak with physicians to learn their concerns. Here are some strategies for creating those opportunities.
 - Spend time regularly to see the nurses in the lounge or the lunchroom.
 - Convene and meet regularly with a nurse's advisory council.
 - Schedule a regular dinner meeting with small groups of nurses from a variety of fields.
 - When rounding in the clinical areas, ask nurses and staff to show you specific barriers or frustrations they are encountering.
 - Regularly shadow nurses for a couple of hours at a time to see how they work and where they encounter barriers to their work.
3. Consider creating a formalized mechanism for receiving feedback from frontline nurses and clinicians. Build your knowledge of burnout. Use various resources to gain a better understanding of the problem.
 - Read articles about how other organizations are addressing burnout.
 - Subscribe to blog sites that focus on burnout.
 - Read books about burnout.
 - Attend presentations, meetings, and workshops on burnout.
 - Join a site visit to an organization that is addressing burnout successfully.

Take proactive steps to create a culture founded on Respect for People. Deep and sustained organizational change requires that you change how you lead, which in turn requires that you change where to spend your time, how you interact with others, and the messages you communicate to those you lead. Changing the way you lead requires that you undergo a personal transformation.

In our experience, leaders who value and respect their workforce in a highly personal way have undergone a profound personal transformation that results in greater humility, greater comfort with vulnerability, and acknowledgment of the limitations of their knowledge and ability.

To foster a culture of respect, we recommend the following steps:

1. Conduct an honest self-evaluation. Consider using the Multifactor Leadership Questionnaire (MLQ) from Mind Garden.
2. Learn about alternatives to Sloan-style, top-down management.
3. In executive meetings, use storytelling and modeling of respect and other desired behaviors to shift culture by demonstrating "this is how we do things here."
4. Build your knowledge of the Lean management style.

Take Action:

After building the capacity of your organization to address nurse burnout, you must implement strategies to address the three levels of burnout drivers.

Identify prevention and treatment of burnout as a key strategic priority. take several steps to prioritize addressing burnout. We recommend the following:

1. Include burnout as an agenda item for all executive meetings.
2. Add burnout and wellness metrics to your organizational performance dashboard.
3. Communicate to any direct report who are not fully engaged in tackling the issue that addressing nurse burnout is a priority.

Start a nurse's wellness program. The program can address the individual nurse factors that drive burnout and can help nurses with active burnout symptoms or other forms of distress. We recommend these steps:

1. Empower nurses to lead the program.
2. Review and refine confidentiality policies to encourage the use of the resources.
3. Provide adequate funding and other support.

Implement a Lean management system. A Lean management system (LMS) will allow you to identify and address the workplace drivers of burnout. we recommend the following steps:

1. Make addressing burnout a key priority in your strategy deployment process.
2. Intensively redesign workflow, starting in one location. Choose the site based on weighted criteria, with burnout prevalence a significant factor in the weighting. After successfully redesigning the workflow at the pilot site, spread the redesign to other locations.
3. Implement the use of daily problem-solving huddles throughout the organization. Implement daily huddles first in patient care sites; later spread their use to non-clinical units. Implement tiered huddles to escalate problems quickly from the front line to

executives if needed. Train directors, managers, and supervisors to become effective coaches and mentors rather than problem-solving firefighters who mandate performance outcomes without providing support.

4. Remove excess materials from the workplace and organize required items throughout the organization to reduce clutter and chaos in the workplace environment.
5. Identify and fix ubiquitous problems, such as the data-entry burden associated with Electronic Health Records. To do so, first create an optimization team to address a problem, reporting at the daily huddles, with relevant information channeled to leadership through the tiered huddle process. Use structured problem-solving tools to identify underlying causes and develop an action plan.

Bridge any existing gap between administration and nurses. Success in addressing burnout requires that you involve nurses in developing a new organizational culture and in your strategic planning process. Some suggested steps include the following:

1. Work with nurses and other clinicians to define a new **vision, mission, and values (VMV)** statements. Refer to the VMV statements when making both major and minor decisions. Start every meeting with a patient story and draw the connection to the VMV statements.
2. Create a contract with nurses based on the new VMV statements.
3. Involve nurses in strategic planning.
4. Elicit input from frontline nurses.
5. Invite nurse stakeholders from multiple specialties to work as a team to propose planning priorities.
6. Take steps to ensure that nurses can spend at least 10 to 20 percent of their work time in the area that is most meaningful to them. Nurses often have a specific interest within their specialty or find working with a particular patient population to be especially meaningful. Ensuring time spent in an area of interest has been linked to lower burnout rates, and is an effective way to demonstrate to nurses that you are listening to their values and are providing opportunities for change. Facilitate the pursuit of nurses' areas of interest and support nurses within a group in selecting different areas on which to focus. Building these areas of interest will not only reduce the risk of burnout but also may offer

a competitive advantage to the organization — the differentiation of service may provide the expertise that allows the organization to serve a broader patient population.

Consider the impact of external pressures on nurses and take steps to minimize them. Efforts to affect policy at the local and national levels can have an impact. We recommend the following steps when taking action to minimize the effects of external drivers.

1. Bring the nurse's perspective into your work with insurers or other external entities that develop regulations or legislation that affect health care delivery (for example, Centers for Medicare and Medicaid Services [CMS], Joint Commission, National Quality Forum [NQF]).
2. Advocate for changes in legislation and regulations to improve the nurse's experience.
3. Solicit input from nurses about the potential impact of new mandates and proactively take steps to mitigate their effect on nurses' daily practice.

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Annexes

16- license approval for MBI-HSS survey:

<https://transform.mindgarden.com/participant/view-document/documentId/65740>

17- The MBI- HSS survey link

<https://transform.mindgarden.com/rsyp/39324>

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