Summer 8-9-2024

Increasing Resiliency in Front-Line Nurse Managers

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N670 Internship

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August 1, 2024

Abstract

Problem

According to Membrive-Jimenez et al. (2020), 29% of nursing managers experience emotional exhaustion due to work overload, conflict mediation, and a lack of support from senior leadership. In a central California hospital, front-line nurse managers struggle to meet organizational goals and support their teams, with 64% indicating dissatisfaction in their roles in fall 2023. This highlights the need to improve job satisfaction and retention.

Context

A large healthcare system in Northern California has implemented Caring Science (Foss et al., 2015) and HeartMath® (HeartMath, 2023) techniques in a rural hospital to improve nurse manager retention and job satisfaction. The project involved training assistant nurse managers and house supervisors in HeartMath® techniques to build a resilient and caring culture.

Intervention

A clinical nurse leader (CNL) student and HeartMath® certified trainer taught three HeartMath® educational modules, which included three HeartMath® techniques.

Measures

The primary outcome measure was the participants' (N=6) job satisfaction and resilience level, measured using two validated and publicly available surveys conducted at pre- and post-educational training.

Results

The resiliency post-survey revealed that the front-line nurse managers sustained their baseline high level of resilience at 100%. The post-survey results showed a 25% increase in overall job satisfaction.

Conclusions

Front-line nurse managers in healthcare organizations face high rates of burnout and turnover. Applying Caring Science principles and techniques like HeartMath® can increase resiliency while creating a supportive culture and psychologically safe work environment. Disseminating these practices to more nurse managers is crucial to supporting their well-being and improving organizational effectiveness.

Keywords: heartmath techniques, resiliency, nurse managers, staff satisfaction, turnover, caring science

Increasing Resiliency in Front-Line Nurse Managers

Since the COVID-19 pandemic, nursing has experienced significant stress, and many have left the profession (Membrive-Jiménez et al., 2020). According to Membrive-Jimenez et al. (2020), 29% of nursing managers experience emotional exhaustion spurred by work overload, mediating conflict, and lack of support from senior leadership. Front-line nurse managers are tasked with creating an environment for staff nurses to provide effective, compassionate care while being subjected to the same stressful and emotional situations their staff contend with daily. They experience secondary traumatic stress, compassion fatigue, and, ultimately, burnout as a result (Saribudak et al., 2023). The front-line nurse manager must be given the tools for stress management and coping techniques to integrate into their daily practices to build resiliency and decrease burnout. Such micro-practices integrated throughout their day can improve their overall health and ability to support their staff who directly care for patients (Wei & Horton-Deutsch, 2022).

Personal Leadership Statement

"Leadership is a developmental journey," according to Wei & Horton-Deutsch (2022). Strength-based leadership emphasizes one's strengths versus weaknesses, which is self-motivating and positively influences others (Wei & Horton-Deutsch, 2022). Using the Clifton Strengths assessment, this author identified five top strengths. According to the assessment, these top five themes were Relator, Responsibility, Intellection, Developer, and Adaptability (Clifton, 2021). Three of these are in the relationship-building category, and only two are in the executing and strategic thinking categories.

Utilizing the author's strengths as a Relator and Developer was crucial to building mutual trust within the team and mentoring others professionally. These strengths can be applied to build a caring and healing environment for the author and staff. This environment promotes caring science among the staff, who will then convey it to patients, promoting positive outcomes (Wei & Horton-Deutsch, 2022). This author firmly believes it is vital to show care and compassion for those caring for the patients and act in the model of compassionate, connected care for caregivers (Wei & Horton-Deutsch, 2022). The relationship trait of Adaptability also builds trusting relationships where staff feel confident in the author's ability to lead them in the right direction while remaining calm and pivoting quickly to guide staff assuredly along the way.

This author's traits of Intellection and Responsibility focus more on getting work done and being mindful of how work is executed. Allowing oneself time to think through the process and evaluate every angle is crucial. Responsibility lends the author to keep their word and ensure that every deadline is met. These two strengths can also be viewed as weaknesses. The author must remember to tell others that the need for time to think and share the pensive process is not a lack of interest. Further, not everything should rest on the author's shoulders. It is imperative to be mindful of sharing responsibility and trusting others to meet deadlines and produce a quality product.

A leadership vision provides a goal and direction for which to strive. A leader must commit to leading authentically with purpose. As a clinical nurse leader (CNL), this author will care for and guide the professional growth of the team. The author's relationship-building strengths will enable the author to promote trust and staff engagement in a caring and healing environment. Leading with integrity, this author will remain honest, transparent, and steadfastly advocate for the exceptional patient experience.

Leadership is a continual journey of learning and growing. Each new experience is an opportunity to gain further knowledge and develop wisdom capacities. Being open to these opportunities while balancing self-care and home life is essential. This author plans to keep cultivating and mentoring teams while moving forward with Caring Science initiatives to change the current culture.

Investing in the leadership overseeing the care of staff and patients is imperative. Without genuine efforts, front-line nurse managers will continue to burn out and leave the organization or transfer to other hospitals. Teaching HeartMath® techniques to the nurse managers is one way to begin addressing the problem, reducing turnover, and shifting the culture toward creating a healing environment.

Problem Description

A 5 P's microsystem (Purpose, Patient population, Professionals, Processes, Patterns) assessment was initially completed in December of 2023 to understand the hospital mesosystem the front-line nurse managers oversee and explore areas for improvement. A reassessment was completed in January 2024 using the Clinical Microsystem Assessment Tool (Johnson, 2001). This assessment revealed that several areas within the team are functioning well, while others indicated that the team is working towards proficiency. Of particular concern is that front-line nurse managers struggle to balance achieving performance goals required by the organization and adequately supporting their staff. Many days are spent "putting out fires" and focused on patient throughput. Although the organization provided recognition and resources to the team, there was not enough time in their daily work to utilize them.

The People Pulse (Glint, 2023) is a biannual survey distributed to staff throughout the rural 99-bed hospital to assess overall job satisfaction and engagement. According to recent data collected from the fall of 2023, the employee engagement scores for employee satisfaction reveal that 64% are unsatisfied with their current role. After assessing the same period, this score is three percentage points below the organization's Northern California hospital system average (Glint, 2023). Considering organizational strategic goals, including joy at work, it is imperative to improve the overall satisfaction scores and build resiliency in the team. This will help the front-line nurse managers create a psychologically safe environment for themselves and their staff, ultimately translating into a better patient care environment and organizational outcomes.

Setting

This quality improvement project was undertaken within a rural, northern California integrated care delivery system comprised of hospitals, an affiliated medical group, and a managed care plan. The setting chosen to address burnout and increase the resiliency of front-line nurse managers was a mesosystem consisting of six assistant nurse managers (ANM), four house supervisors, and one patient care services director in a 99-bed hospital in central California. The group oversees the daily operations and patient care within all hospital units, including a 30-bed med-surg telemetry unit and a six-bed intensive care unit. The hospital operates at nearly half its licensed capacity to maintain private rooms for all patients whenever possible.

Specific Project Aim

By July 25, 2024, six front-line nursing managers in a Central Valley, California hospital will exhibit increased job satisfaction from 50% to 60% and resiliency by 10% from baseline

(see Appendix A, Project Charter). The intervention to achieve the aim was to introduce and teach HeartMath® techniques to the front-line nurse managers that can be used and modeled in their daily practices to decrease the effects of burnout and increase resiliency. HeartMath® is a tool that utilizes breathing techniques, regenerating and sustaining positive emotions to build resiliency (HeartMath, Inc., 2023).

Available Knowledge

PICOT (population, intervention, comparison, outcome, and timeframe) questions are used in scholarly writing to guide literature searches (Dang et al., 2022). For this project, a PICOT (see Appendix B, Evaluation Table) question was created to aid in the search for available knowledge: In hospital management and leadership (P), how does applying HearMath® (I) compared to not applying HeartMath® (C) increase resiliency and reduce management burnout (O) over two months (T)? A systematic electronic search was then conducted to retrieve articles from the following databases: Cochrane Database of Systematic Reviews, PubMed, CINAHL, DynaMed, and Evidence-Based Journals. The search strategy focused on nurse managers, leaders, Caring Science, and burnout. Search terms included management, leadership, front-line nurse manager, administration, Caring Science, Watson, HeartMath®, and reduced burnout. The terms administration and management were truncated to expand the search for various levels of leadership. The investigation was further limited to English articles from 2017 to the present. The search yielded approximately 400 articles, primarily from the CINHAL database. These articles were initially reviewed by reading the title, abstract, design, and methodology. Articles focused on front-line nursing staff were eliminated first, and the top five pieces were then chosen by process of elimination based on relevance to

the PICOT question. The articles were appraised using the Johns Hopkins Nursing Evidence-Based Practice (JHNEBP) appraisal tool (see Appendix B, Evaluation Tables).

Pallesen et al. (2022) conducted a descriptive study on burnout and resilience among hospital-based nurse managers post-COVID-19. This author gave The study a level III, B rating on the JHNEBP. The research utilized the 750-bed Zealand University Hospital in Denmark. Results showed high levels of burnout among leaders, and focusing on person-centered leadership could help reduce burnout. However, the study's limitations include a small, non-diverse sample size from one hospital. The data suggests that focusing on programs about leading others is not helpful because it differs from what leaders find most challenging. Well-being affects the leaders' ability to do their job. A psychologically safe work environment and building community resilience reduce burnout. Shifting the focus to person-centered leadership creates a culture where everyone is a leader and involved in shaping patient care practices.

Solbakken et al. (2021) conducted a qualitative study using hermeneutic design to explore caring in nursing leadership. It included 11 front-line nurse managers from Finland, Norway, and Sweden. The managers struggled to balance their vision with the administration's demands, but upper leadership support allowed them to focus on caring for patients. The study provided a detailed analysis process and promoted the significance of caring in nursing leadership. However, due to prior discussion on the theoretical model, the study had limitations such as an all-female participant sample, a small number of participants, and the potential influence of the participants' drawings. This article rated level III B on the JHNEBP.

Udod et al. (2021) conducted a meta-synthesis investigating how coping strategies developed nurse managers' resilience in rural workplaces. The study used a purposive sampling method and included 16 nurse managers from rural western Canada. Coping strategies increased

managers' resilience and made their work more meaningful. The study recommended that nurse leaders build resilience through formal education, social support, and meaningful recognition to maintain the nursing workforce in an increasingly complex healthcare environment. However, the study was limited by a small sample size and only included participants from rural areas in Western Canada. This article was a level III C on the JHNEBP.

The fourth article was a quasi-experimental project by Buchanan and Reilly (2019) that utilized pre- and post-surveys of 26 healthcare providers implementing HeartMath® techniques. They found that the techniques helped employees manage and reduce stress, supported well-being, increased job satisfaction, and improved resilience. The JHNEBP rating for this article was a level II B.

The fifth article chosen was a level III B on the JHNEBP and reflected a quantitative and qualitative quasi-experimental research design consisting of 16 nurse managers by Sarıbudak et al. (2023). It involved implementing a training program to increase self-awareness and coping with stress.

A review of the evidence suggests that nurse managers who suffer burnout and decreased resiliency need a psychologically safe and healthy work environment where they are encouraged to share their emotions and speak up. Evidence-based practice strategies grounded in Caring Science can create a person-centered leadership team, build a social support network, and create an education curriculum to improve resiliency and job satisfaction (Buchanan & Reilly, 2019; Pallesen et al., 2022; Sarıbudak et al., 2023; Solbakken et al., 2021; Udod et al., 2021).

Rationale

Roger's Diffusion of Innovation Model (Beaudin, 2022) was used to implement a project that involved teaching and applying HeartMath® techniques to front-line nurse managers to improve resiliency, overall well-being, and patient care outcomes. This framework utilizes

communication through social systems to build momentum and encourage others to adopt an innovation. The model has five adoption stages: knowledge, persuasion, decision, implementation, and confirmation.

The first step was to identify the innovators and early adopters. This group will be eager to support and join the project. They will give it momentum and bring the early and late majority along. Once identified, the group was educated on the need for change and the benefits to themselves, others, and the organization. Simultaneously, the critical stakeholders were introduced to HeartMath® and the advantages of completing the educational sessions using current research data. The stakeholders, innovators, and early adopters received information on the plan to recruit, roll out, and implement the project. This paved the way for implementing the project and recruiting the first round of front-line nurse manager participants.

Context

The January 2024 mesosystem assessment revealed that while some areas function well, front-line nurse managers struggle to balance performance goals and staff support. The People Pulse survey data from fall 2023 showed that 64% of employees are unsatisfied with their current roles. Improving overall satisfaction scores and building resiliency in the team was imperative to create a psychologically safe environment for staff, leading to better patient outcomes and organizational goals.

There was a current turnover rate in the service area of six assistant nurse managers (ANMs) per year who transferred to another facility or left the organization altogether (see Appendix C, Gap Analysis). Retention of ANMs can be accomplished through increased job satisfaction and increased resiliency. The regional organization’s offices have facilitated the spreading and training of HeartMath® trainers and techniques with a hub model to assist in

teaching and implementation. A baseline of the level of burnout and resiliency of the six ANMs was conducted before the first module. Additional steps to build a team and gain support for the project should also be completed before initiating the modules.

The strengths and weaknesses of this project are outlined in a SWOT analysis (see Appendix D, SWOT Analysis). The internal strengths include the existing Regional support for Caring Science and the current framework for the HeartMath® modules. The ANMs also already function at a high level to facilitate throughput and care on their units. Hubs were also implemented to share the burden of facilitating the modules with neighboring service areas. There may also have been other initiatives with a higher priority that could have taken precedence over this project. Ultimately, the project will build a resilient and caring culture among the ANMs throughout the hospital and decrease turnover.

Intervention

Before initiating the intervention, a poll of the champions and stakeholders was completed to determine their willingness to adopt or reject the project idea. Once the pulse of acceptance or rejection was calculated, the consideration to reassess the proposed change, increase evidence for persuasion, or recruit other influential innovators and early adopters was completed. This allowed the project to be supported and proceed as planned.

A brief informal inquiry was conducted with the participants to gauge their current level of HeartMath® knowledge. This informed the following three educational trainings: the Introduction and Resilience module, the Depeleting and Renewing Emotions module, and the Intelligent Energy Management module. Each module is part of the Resilience Adantage™ training designed by HeartMath® Institute (HeartMath, 2023). The change tests consisted of tracking each module's attendance and completion. The training taught the fundamentals of

HeartMath®, including Heart Focused Breathing™, Inner-Ease™, and Quick Coherence™. The trainings were conducted in small groups of no more than four participants and taught by a certified HeatMath® trainer.

The intervention was preceded by administering the Resiliency and Job Satisfaction Scale surveys (see Appendix E, Materials for Implementation and Evaluation). The Resiliency Scale survey consisted of nine statements participants rated on a six-point Likert scale, with one being very inaccurate and six very accurate. The Job Satisfaction Scale survey had six statements also rated on a Likert scale from one, strongly disagree, to five, strongly agree. The surveys were administered to the participants again after the intervention. No identifying information was collected, and each participant was given a unique identifier to pair the pre- and post-survey findings.

It was imperative to increase resiliency and decrease burnout in front-line nurse managers to increase retention and save the organization's costs (see Appendix F, Financial Analysis). The program's implementation required the FTEs' costs for project planning, course time teaching, and the materials needed. The equipment needed was readily available and would not be an additional cost. These components total $15,200. The annual replacement cost of ANMs is $300,000 (J. Miller, personal communication, December 4, 2023). By increasing retention of ANMs by 50%, the annual cost avoidance will be $150,000. Further, completion of just one module will have a return on investment (ROI) of $134,800. This decreased after completing all three modules, but a significant ROI of $45,800 remained. This is due to the continued cost of resources for each module, and the cost of replacing six ANMs remains the same.

Study of the Intervention

A process measure used to study the intervention included the percentage of front-line nurse managers who completed the pre-surveys and the Resilience Adantage™ training modules. The small group training sessions were adapted to include one-to-one sessions to accommodate the front-line nurse managers' schedules as needed. The Resiliency Scale and Job Satisfaction Scale surveys were given to the participants before and after the HeartMath® training sessions for baseline data and outcome measure data. The results of these pre- and post-surveys were compared to determine whether there was an increase in the participants' self-perceived resiliency and job satisfaction, thus determining the effectiveness of the training. As a balancing measure, the turnover rate of front-line nurse managers was monitored from January 2024 to July 2024. This measure continued to be monitored after the project concluded until December of 2024. Then, three tests of change occurred that included monitoring the attendance and completion of each of the three module series.

Ethical Considerations

It's important to note that this project has been approved as a quality improvement project by faculty using QI review guidelines and does not require IRB approval. In addition, the Research Determination Committee for the Kaiser Permanente Northern California region has determined that the project does not meet the regulatory definition of research involving human subjects per 45 CFR 46.102(d) (see Appendix G, RDO Approval). These ethical considerations underscore the integrity of the project.

Front-line nurse managers suffer from burnout, depersonalization, work overload, and daily emotional exhaustion (Membrive-Jiménez et al., 2020). Combating these effects and improving resiliency, productivity, and patient care is imperative. HeartMath® techniques

provide front-line nurse managers with the tools to build a social network and increase personal resiliency. The effort and value placed on front-line nurse managers will have a ripple effect that will improve staff productivity and patient outcomes through their well-being.

Jesuit values emphasize continuous learning, diversity, and a culture of service (University of San Francisco, 2001). The American Nurses Association (ANA, 2015) echoes the Jesuit values in the nursing code of ethics. This project embraced those values by learning what measures could be taken to improve the well-being of front-line nurse managers while welcoming their complex diversities and unique situations. In provision one of the code of ethics, the nurse must practice compassion, respect, and dignity toward every person (ANA, 2015). In provision five, nurses are responsible for acting towards themselves as they do to others (ANA, 2015). In the spirit of Jesuit values and the nursing code of ethics, the front-line nurse managers must act according to the principles of Caring Science to their staff, patients, and themselves. HeatMath® is just one tool that can be used. Additional research and implementation of Caring Science principles should be done to continue building upon the work done by this quality improvement project.

Outcome Measure Results

Ten ANMs and house supervisors were offered to participate in the quality improvement project. Six of the ten attended the training. The outcome measures were derived from pre- and post-surveys administered to the participants. The surveys utilized unique identifiers to maintain anonymity and were kept secure by the project lead. The information was further deidentified by assigning a random number one through six to each participant. The surveys used a Likert scale to measure questions on the individual's perceived level of job satisfaction and resiliency. Higher scores correlated with an elevated level of personal resilience and job satisfaction.

The pre-surveys were analyzed, revealing baseline data that 50% of the front-line nurse managers had high job satisfaction (see Appendix H, Outcome Measure Data). 100% of those surveyed also indicated a high level of resiliency at baseline. The scores indicate that although the front-line nurse managers have a high level of resiliency, half did not experience job satisfaction.

Each participant was allowed to take the post-survey after two weeks of integrating the HeartMath® techniques they learned, of which only four out of the six original participants completed it. Participants who did not complete the post-survey were given a score of zero and not tabulated into the final percentages to account for the attrition. The post-survey resiliency results were sustained at 100%, but the job satisfaction survey showed a 25% increase with a final percentage of 75%.

The job satisfaction baseline data was lower than the employee satisfaction survey from the fall of 2023. It was not unexpected that this sample representation would score lower or the same. It was surprising to see that despite the lower perception of job satisfaction, the participants had a high level of resiliency. Overall, these scores indicate that the front-line nurse managers who took the pre- and post-surveys sustained high resiliency and increased their job satisfaction after learning and practicing the HeartMath® techniques.

Summary

The key finding in this quality improvement project was that teaching front-line nurse managers micro-practices that can be used throughout their day bolstered their ability to cope with daily challenges and increased their job satisfaction. This small test of change showed that practicing HeartMath® sustained their resiliency. Additionally, the increase in overall job

satisfaction implies that front-line nurse managers are more likely to stay in their current roles and thus decrease turnover.

In future training, spacing out the training modules would allow participants ample time and opportunities to practice the techniques between sessions. Additionally, it was noted that administering the post-survey at the conclusion of the final lesson would increase participation and the validity of the data collected.

The success of this quality improvement project was directly related to the support of the mesosystem's leadership. Their willingness to invest in their front-line nurse managers by emphasizing the project's importance and giving them time to attend the training was crucial.

Conclusions

The high rate of burnout and turnover among front-line nurse managers in healthcare organizations is a serious concern that affects not only the managers but also the staff and the quality of care provided to patients. Evidence-based literature proves that the application of Caring Science principles and techniques can provide a solution to this problem. Front-line nurse managers can bolster and increase their resiliency through micro practices such as HeartMath®, create a psychologically safe and healthy work environment focusing on person-centered leadership, and build social support networks.

Additional steps should be taken to continue teaching the remaining front-line nurse managers in this mesosystem and spreading the practice to other facilities within the service area. Further adaptations to the project should be made to spread the module sessions out and provide opportunities to practice the techniques between modules. An increase in the participant sample size would further validate the data collected. Other evidence-based practices should also be explored to continue investing in the well-being of front-line nurse managers.

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Appendix A

Project Charter

Project Charter: Increasing Resiliency in Frontline Nurse Managers

Global Aim: By December 2024, sustain the utilization of HeartMath® techniques that decrease burnout and increase resiliency in front-line nurse managers in a small Central Valley, California hospital.

Specific Aim: By July 25, 2024, six front-line nursing managers in a hospital in Central Valley, California, will exhibit increased job satisfaction from 50% to 60% and increased resiliency by 10% from baseline.

Background: Since the COVID-19 pandemic, registered nurses have experienced greater amounts of stress, and many have left the profession (Membrive-Jiménez et al., 2020). According to Membrive-Jimenez et al. (2020), 29% of nursing managers experience emotional exhaustion spurred by work overload, mediating conflict, and lack of support from senior leadership. These factors have contributed to significant turnover in assistant nurse managers in a hospital in Central Valley, California, because of the added burden of managing the demands from upper leadership, staff, and care of patients. Front-line nurse managers are tasked with creating an environment for staff nurses to provide effective, compassionate care while being subjected to the same stressful and emotional dilemmas their staff contend with daily. These middle managers experience secondary traumatic stress, compassion fatigue, and, ultimately, burnout as a result (Saribudak et al., 2023). The front-line nurse manager must be given the tools for stress management and coping techniques to integrate into their daily practices to build resiliency and promote self-care. Such micro-practices integrated throughout their day can improve their overall health and ability to be wholly present for their staff and teams who directly care for patients (Wei & Horton-Deutsch, 2022).

Sponsors

Director of Patient Care Services	
Nurse Manager	
Director of Clinical Quality	

Goals for the Project

To introduce and teach HeartMath® techniques to front-line nurse managers that can be used in daily practices to increase job satisfaction and resiliency through the following steps:

1) Identification of current level of job satisfaction and resiliency using a pre-survey.
2) Teach the Resilience Advantage™ modules created by The HeartMath® Institute.
    1. Introduction and Resilience
    2. Depleting and Renewing Emotions
    3. Intelligent Energy Management
        i) Heart Focused Breathing™
        ii) Inner-Ease™

iii) Quick Coherence™

3) Post survey to identify the level of job satisfaction and resiliency post-intervention.

Measures

Measure	Measure Type	Data Source	Target
% of frontline nurse managers who have completed the 3 Resilience Advantage™ modules	Process Measure	Manual Abstraction	60%
% of job satisfaction	Outcome Measure	Pre and Post Survey	60%
% of the level of resiliency	Outcome Measure	Pre and Post Survey	50%
Monitor % turnover rate January – December 2024	Balancing Measure	HR Report	50%

Team Members

Project Lead	
Nurse Manager	
Quality Nurse Consultant	

Measurement Strategy

Background (Global Aim): By December 2024, sustain the utilization of HeartMath® techniques that decrease burnout and increase resiliency in front-line nurse managers in a small Central Valley, California hospital.

Population Criteria: Front-line nurse managers in the Manteca facility.

Data Collection Method: The data will be obtained through manual abstraction of pre-surveys from a sample size of six assistant nurse managers and house supervisors to establish a baseline. Once the baseline data is collected, a post-intervention survey of the same sample size will be conducted and synthesized.

Measure Description

Measure	Measure Definition	Data Source	Target
% of frontline nurse managers who have completed the 3 Resilience Advantage™ modules (process measure)	N= # of front-line nurse managers who completed the Resilience Advantage™ modules D= # of total front-line nurse managers who were given the opportunity to complete the Resilience Advantage™ modules	Manual Abstraction	60%

% of job satisfaction (outcome measure)	N= # of front-line nurse managers with a score of ≥3.8 on a scale of 1 to 5 D= # total number of front-line nurses surveyed	Pre and Post Survey	60%
% of the level of resiliency (outcome measure)	N= # of front-line nurse managers with a score of ≥4 on a scale of 1 to 6 D= # total number of front-line nurses surveyed	Pre and Post Survey	50%
Monitor % turnover rate January – December 2024 (balancing measure)	N= # of front-line nurse managers who transferred or left the organization D= # total number of front-line nurses	HR Report	50%

Driver Diagram

Aim	Primary Driver	Secondary Driver
ANM Burnout	Daily issues management (staffing)	Patient issues (safety, satisfaction)
	Demand to meet metrics (clinical, operational, financial)	Delay of care issues (wait times, handoffs)
	Service Recovery	Throughput issues
	Lack of emotional recovery time	Pressure from upper leadership
		Patient complaints

Changes to Test

1. Attendance and completion of Introduction and Resilience module
2. Attendance and completion of Depleting and Renewing Emotions module
3. Attendance and completion of Intelligent Energy Management with three techniques module

Appendix B

Evaluation Tables

PICOT Question

In hospital management and leadership (P), how does applying HeartMath® (I) compared to not applying HeartMath® (C) increase resiliency and reduce management burnout (O) over two months (T)?

Study	Design	Sample	Outcome/Feasibility	Evidence rating
Buchanan, T. M., & Reilly, P. M. (2019). The Impact of HeartMath Resiliency Training on Health Care Providers. *Dimensions of Critical Care Nursing*, *38*(6), 328–336. https://doi.org/10.1097/DCC.0000000000000384	Quasi-experimental utilizing pre and post-surveys	26 healthcare providers	HeartMath® techniques help employees manage and reduce stress, support well-being, increase job satisfaction, and improve resilience.	II B
Membrive-Jiménez, M. J., Pradas-Hernández, L., Suleiman-Martos, N., Vargas-Román, K., Cañadas-De la Fuente, G. A., Gomez-Urquiza, J. L., & De la Fuente-Solana, E. I. (2020). Burnout in nursing managers: A systematic review and meta-analysis of related factors, levels and prevalence. *International Journal of Environmental Research and Public Health*, *17*(11), 3983. https://doi.org/10.3390/ijerph17113983	Systematic review and meta-analysis	none	Demonstrate the effects of burnout in nurse managers and associated risk factors.	III B
Pallesen, K. S., McCormack, B., Kjerholt, M., Borre, L. Z., Rosted, E., & Hølge-Hazelton, B. (2022). An investigation of the level of burnout and resilience among hospital based nurse managers after Covid 19 — A cross-sectional questionnaire-based study. *Journal of Nursing Management*, *30*(8), 4107–4115.	A descriptive study utilizing questionnaires to investigate burnout and resilience among hospital-	59 ward managers	The results showed leaders had a high degree of personal and work-related burnout but not employee-related burnout. The data suggest that focusing on programs about	III B

https://doi.org/10.1111/jonm.13868	based nurse managers post-COVID-19.		leading others is not helpful because it differs from what leaders find most challenging. Ill-being affects the leaders' ability to do their jobs. A psychologically safe environment and building community resilience reduce burnout. Shifting the focus to person-centered leadership creates a culture where everyone is a leader and involved in shaping patient care practices.	
Sarıbudak, T. P., Güner, P., & Çepni, B. (2023). Effect of a compassion fatigue resiliency program on nurse managers' professional quality of life, stress, and resilience: A mixed-methods study. *Journal of Nursing Care Quality*, *38*(4), 367–373. https://doi.org/10.1097/NCQ.0000000000000714Links to an external site.	A quantitative and qualitative quasi-experimental research design	16 nurse managers	A training program implemented increased self-awareness and ability to cope with stress.	III B
Solbakken, R., Bondas, T., & Kasén, A. (2021). Relationships influencing caring in first-line nursing leadership: A visual hermeneutic study. *Scandinavian Journal of Caring Sciences*, 36(4), 957–968. https://doi.org/10.1111/scs.12992	Qualitative using hermeneutic design to explore and interpret relationships that influence caring in nursing leadership.	A purposive sample of 11 first-line nurse managers.	The findings showed that first-line nurse managers struggled to balance their vision	III B

	Utilized visual methods combined with focus groups.		with the administration's demands. Caring for patients meant caring for staff, and the managers often felt overwhelmed by the contradictory demands. Upper leadership's support allowed first-line nurse managers to focus on caring for patients. This study promotes the significance of caring in nursing leadership and the caritative leadership theory.	
Udod, S., Care, W. D., Marie Graham, J., Henriquez, N., &	Meta-synthesis	16 nurse managers	Coping strategies increased	III C

Ahmad, N. (2021). From coping to building nurse manager resilience in rural workplaces in Western Canada. *Journal of Nursing Management*, 29(7), 2115–2122. https://doi.org/10.1111/jonm.13350	used a purposive sampling method to investigate the role of stressors and how coping strategies developed nurse managers' resilience in rural workplaces.		managers' resilience and made their work more meaningful. Managers brought their expertise, knowledge, and skills to make their work meaningful to health service delivery in rural communities. The nurse manager's resilience can be fortified using evidence-based strategies in an increasingly complex healthcare environment. Formal education, social support, and meaningful recognition can build resilience and are essential for nurse leaders to create a healthy work environment and maintain the nursing workforce.	

Appendix C

Gap Analysis

Gap Analysis		
Area under consideration: Decrease burnout, increase resiliency and retention of front-line nurse managers. AIM statement: By June 1, 2024, six front-line nursing managers in a hospital in Central Valley, California, will exhibit increased job satisfaction from 50% to 60% and increased resiliency by 10% from baseline.		
Desired State	**Current State**	**Action Steps**
Retention of ANMs through increased job satisfaction and decreased burnout.	High turnover and transfer of 6 ANMs per year	Survey 6 ANMs to get baseline levels of burnout and potential of leaving.
		Recruit the HeartMath® training team to participate in planning sessions, recruit participants, and teach modules.
		Enlist assistance from the Caring Science Hub. Call Fresno lead to arrange a meeting to discuss plans and needs.
		Meet with CNE to present the proposal for HeartMath® modules and gain her support as an early adopter.
		Recruit participants to learn HeartMath® techniques by talking with ANMs and Managers to gain their interest and sign up to participate.
		Review modules with the Caring Science Academy Team to ensure knowledge of subject matter to be taught and facilitate confidence in leading the modules.

Appendix D

SWOT Analysis

	Favorable/Helpful	Unfavorable/Harmful
Internal (attributes of the organization)	**Strengths** • Regional support for applying Caring Science • HeartMath® supports Magnet Journey. • ANMs work together to facilitate throughput on their units. • HeartMath® modules have a playbook and outline approved by Region.	**Weaknesses** • Requires a team to teach modules; lack of local HeartMath® trainers • An existing culture of caring at competitive hospitals • Low ANM morale and resiliency • Need local buy-in, a large program to execute, and the cost of the program
External (attributes of the organization)	**Opportunities** • Regional support and adoption and spread of HeartMath® • Hub support model • To drive the project to other service areas throughout Northern California. • Roll out Regional initiatives, passion for patient care, high performance • Innovative leaders and staff, able to get buy-in • Build a culture of caring, retain ANMs, and save the cost of replacement	**Threats** • Strike costs, loss of revenue over the last year • Implementing Caring Science and creating Caritas rooms for staff that are attractive to current KP ANMs • Other initiatives may be a higher priority and thus take project funding • Increase funds needed to carry out the project; may lose additional ANMs

Adopted from: SWOT en.svg. (2020, November 5).

Appendix E

Materials for Implementation and Evaluation

Resiliency Scale

Items
1. I feel capable of overcoming my present or any future difficulties and problems I might face such as resolving dilemmas or making difficult decisions.
2. I have high capacity for facing adversity.
3. When there is a great deal of pressure being placed on me, I remain calm.
4. During stressful circumstances, I never experience anxiety.
5. When I have made a mistake during a stressful situation, I continue to like myself.
6. When I need to stand up for myself, I can do it easily.
7. In really difficult situations, I feel able to respond in positive ways.
8. I experience peacefulness—free of thoughts and worries, when I need to relax during stressful times.
9. I remain calm, when I am in a frightening situation.

Test Format: The resiliency items are presented on a six-point Likert scale (1 = very inaccurate; 6 = very accurate).

Source: Siu et al., 2009

Job Satisfaction Scale

Items
1. I find real enjoyment in my job.
2. I like my job better than the average person does.
3. I am seldom bored with my job.
4. I would not consider taking another kind of job.
5. Most days I am enthusiastic about my job.
6. I feel fairly well satisfied with my job.

Note. A 5-point Likert-type scale format (5 = *Strongly Agree*; 1 = *Strongly Disagree*) was used to measure employees' perception of each item.

Source: Iverson et al. (1998)

Appendix F

Financial Analysis

Current State			
40 Assistant Nurse Managers (ANMs)	**Average # of ANMs leave per year**	**Cost per new ANM hired**	**Total cost of new ANMs per year**
	6	**$50,000**	**$300,000**

Improved State		Annual Cost Avoidance
50% Reduction of ANMs leaving or transferring	**3**	**$150,000**

HeartMath® Module (Cost Implementation)	Number of project hours total	Hourly Rate + .3 Benefit	Annual Cost (4 hour class)
1 Project Manager to organize and recruit participants	80	$100	$8,000
1 Caritas Coach to teach module	16	$98	$1,560
1 HeartMath Trainers to teach module	16	$85	$1,360
10 ANM participants per module	40	$107	$4,280
Materials/Supplies/Class gifts			$500
Total Cost			**$15,200**

3 Module Series	**Total Cost**
	$60,800

Project Savings (ROI)	**One Module**	**Three Module Series**
	$134,800	**$45,800**

Appendix G

RDO Approval

KAISER PERMANENTE®

Date: June 17, 2024
Subject: RDO KPNC 24 – 155
Title: Increasing Resiliency in Frontline Nurse Managers

Dear Ms. La Vallee:

The Research Determination Committee for the Kaiser Permanente Northern California region has reviewed the documents submitted for the above referenced project to be used by Ms. Bunyard-Fallquist for her MSN project. The project does not meet the regulatory definition of research involving human subjects as noted here:

Not Research

The activity does not meet the regulatory definition of research per 45 CFR 46.102(d): Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

This determination is based on the information provided. If the scope or nature of the project changes in a manner that could impact this review, please resubmit for a new determination. The word "research" should not appear in any posters or publications resulting from this project. Further, if publications, presentations or posters are generated from this project the following wording must be used to reference to the project research determination outcome:

"The Research Determination Committee for the Kaiser Permanente Northern California region has determined the project does not meet the regulatory definition of research involving human subjects per 45 CFR 46.102(d)"

You are expected, however, to implement your study or project in a manner congruent with accepted professional standards and ethical guidelines as described in the Belmont Report (http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html).

Additionally, you are responsible for keeping a copy of this determination letter in your project files as it may be necessary to demonstrate that your project was properly reviewed. Provide this approval letter to the Physician in Charge (PIC), your Area Manager, and Chief of Service, to determine whether additional approvals are needed.

Finally, all manuscripts/case series/case studies must receive written approval prior to submission to a journal or book. The Principal Investigator (PI) or first author (if different) must request their PIC[1], or the Division of Research (DOR) Director[2], or the Research & Innovation Academy (RIA)[3] or an equivalent level leader[4] review and provide written approval for publication submission. The PI is responsible for retaining a copy of the approval.

Sincerely,

The Research Determination Committee
KPNC-RDO@kp.org

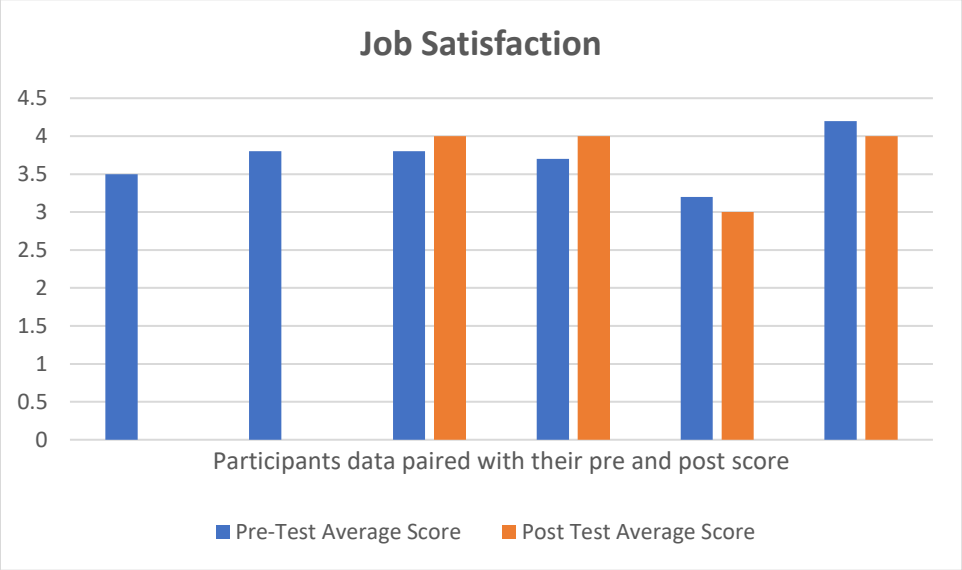
[1]PIC approval is required for all manuscripts/case series/case studies that do not include a DOR employee as an author; including but not limited to medical students, residents, and fellows.
[2]DOR Director approval is required for all manuscripts/case series/case studies that include DOR employees as authors.
[3]For all nurse-authored manuscripts/case series/case studies, approval by the Research & Innovation Academy is required.
[4] If you are not sure who this would be, please contact the Research Determination Office (KPNC-RDO@kp.org)

Appendix H

Outcome Measure Data

Job Satisfaction %=n/d	
Pre-Test	Post-Test
50% (2/4)	75% (3/4)

Job Satisfaction: Participants Average Score		
ID	Pre-Test Average Score	Post-Test Average Score
1	3.5	0
2	3.8	0
3	3.8	4
4	3.7	4
5	3.2	3
6	4.2	4



Resiliency %=n/d	
Pre-Test	Post-Test
100% (4/4)	100% (4/4)

Resiliency: Participants Average Score		
ID	Pretest Average	Post Test Average
1	2.3	0
2	4.9	0
3	4.3	4.2
4	6	6
5	4.7	4.4
6	4.2	4.3