# Journey Mapping Healthcare Worker **Experience With Heart Rhythm Meditation**

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### **Abstract**

Background: Levels of stress and burnout continue to rise amongst healthcare workers. In addition to systemic and institution-level changes to healthcare practice environments, well-being interventions, resources, and support to assist healthcare providers are necessary. Meditation practices like Heart Rhythm Meditation (HRM) may provide benefits to healthcare workers, but healthcare worker experiences with HRM are not well understood.

**Objective:** To explore healthcare worker experiences with HRM using a journey mapping approach.

Methods: An exploratory cross-sectional online survey was administered between May and July of 2020 to a purposeful sample of 25 healthcare workers currently practicing HRM. Surveys consisted of 5 open-ended and 36 multiple-choice items mapped to five journey mapping domains: Discover, Search, Assess, Decide, Assist. Descriptive statistics for survey items were generated in addition to a visual representation of a Persona and associated journey map for HRM. Content analysis was performed on openended responses using a general inductive approach to code responses and identify representative quotes.

Results: Twenty surveys were completed for a response rate of 80%. The majority of respondents identified as women (n = 14). From the journey mapping output, the overall emotional experience score was an 8.2/10, suggesting respondents had positive experiences with HRM. Open-ended comments suggest that HRM provides important benefits to the personal and professional lives of healthcare workers. A small number of participants reported challenges like feeling difficult emotions during HRM practice.

Conclusion: Mapping the healthcare worker journey with HRM identified generally positive experiences with personal and professional benefits. While experiences were largely positive, HRM elicited difficult emotions from some individuals, suggesting that appropriate resources and support are required when considering HRM and other meditation forms.

### **Keywords**

meditation, well-being, stress resilience, burnout, empathy, journey mapping

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Burnout is a psychological syndrome emerging as a prolonged response to chronic stressors experienced in one's work environment which have not been successfully managed.<sup>1,2</sup> Burnout is characterized by three dimensions: physical and emotional exhaustion, increased mental distance from one's job, and reduced professional efficacy. High levels of stress and burnout are prevalent among healthcare workers, with existing studies indicating that approximately

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50% of clinicians (physicians, nurses, pharmacists, and other professionals) report feeling burned out.<sup>4</sup>

A large body of research has emphasized and evaluated self-care activities as potential coping-strategies for burnout, with considerable focus on mindfulness, meditation, and meditative practices.<sup>5-9</sup> Meditation, as defined by the National Institutes of Health Center on Complementary and Alternative Medicine, is "a mind and body practice that has a long history of use for increasing calmness and physical relaxation, improving psychological balance, coping with illness and enhancing overall health and well-being."10 Meditation has been shown to have a number of benefits, including improvements in perceived stress and burnout. 11-19 Further, mindfulness meditation may have positive effects on patient safety, with studies demonstrating a reduction in preventable errors. 12,20-23 While numerous studies have focused on mindfulness and loving-kindness meditation practices, exploring additional forms of meditation practice used by health care workers like Heart Rhythm Meditation (HRM) may provide new insights.

Heart Rhythm Meditation (HRM) is a form of meditation that coordinates the fundamental rhythms of the heartbeat and breath, with the basic steps of HRM include sitting upright, concentrating on breathing full slow breaths, and observing ones heartbeat or pulse by using a finger on an artery or feeling the heartbeat through proprioception and counting heartbeats and pulse. Once the heartbeat is identified, the heartbeat and counting are used to balance breathing, making inhalation and exhalation equal in length with the intent of slowing down both the heartbeat and breathe. While empirical evidence of HRM benefits are limited, heart and breath-related meditative practice have the potential to promote conscious breathing, improve heart rate variability (HRV) and vagal tone, which are correlated with improvements in brain function, self-regulation, performance, health, and well-being. 16,24-27 Pharmacists, pharmacy students, and a myriad of additional healthcare workers have reported engaging in, and benefiting from meditative practices, including HRM. Despite the increase in meditation amongst this population, the experiences of healthcare providers discovering, establishing, and maintaining a meditative practice are not well understood. One way to understand these experiences is through the processes of journey mapping.

Journey mapping is a research methodology focused on the user experience and is typically employed to better understand consumer behavior, preferences, and experiences with products or services. <sup>28,29</sup> Journey mapping enables visualization of the overall experience of an individual from their perspective, including feelings, motivations, and attitudes, as they move through various interactions or "touch points." For the present evaluation, we focus on the journey of healthcare workers who have engaged in and developed a HRM practice. By using research methods purposefully focused on gaining empathy for the individual experience and collecting data on the entirety of the experience, journey

mapping has the potential to convey deeper and more nuanced insights than other evaluation techniques. These insights may subsequently be used to identify potential targets to develop and implement formal resources and programs designed to support healthcare workers' well-being and mitigate burnout. The objectives of this study were to 1) create a healthcare provider journey map depicting the experience of discovering, developing, and maintaining a HRM practice and 2) to explore the self-reported effects and experiences of healthcare worker HRM practices.

### **Methods**

This exploratory study was conducted between May and July 2020. A purposeful convenience sample of 25 healthcare workers with HRM experience were recruited to complete online, journey map surveys. The sample was comprised of pharmacists, certified pharmacy technicians, physicians, registered nurses (RNs), certified registered nurse practitioners (CRNPs), opticians, therapists, chaplains, and dentists and were identified by a study author (LW) as having experience with HRM.

The study author (LW) who identified participants is a Medication Safety and Compliance Specialist trained in HRM and is a Certified HRM Instructor who currently offers virtual drop-in meditation sessions at their institution. While some individuals identified to complete the journey map surveys had participated in the drop-in meditation sessions, others were recruited from outside the institution who had familiarity with the study author providing HRM sessions and had experience with HRM outside of and/or in addition to the drop-in sessions. While some study participants had participated in HRM instruction provided at the institution, the anonymous nature of the survey prevented those individuals from being identified. The drop-in meditation sessions consisted of weekly classes, taught by a certified HRM teacher (LW), where the fundamental steps of HRM were practiced, any questions or difficulties surrounding HRM were resolved, and individuals were prepared for an established regular HRM practice moving forward. The study was reviewed by the Institutional Review Board and received an exempt status.

Survey questions were informed by standardized items within the online journey mapping platform (Journimap, Iowa City, IA) and were adapted for HRM. The journey mapping survey consisted of 5 open-ended and 36 multiple choice items, collecting data from five journey domains: *Discover, Search, Assess, Decide,* and *Assist.* These domains were identified from existing human-centered design research, focused on collecting information related to multiple phases which provide a holistic reflection and visualization of an individual experience. <sup>30,31</sup> Additionally, the journey mapping survey was informed by remote ethnography principles. <sup>32</sup> Ethnography is a methodological tool that "gets close" to a particular group and/or sub-group to uncover

cultural phenomena, offering exploratory researchers an opportunity to uncover their social realities. 33,34 Ultimately, the journey mapping survey was specifically designed to collect and visualize the dynamic experience of healthcare workers currently practicing HRM and to uncover specific components of the experience related to the practice.

The online journey mapping platform maps multiplechoice survey response items to each experiential domain (Discover, Search, Assess, Decide, Assist) and uses an algorithm to produce a visual journey map which is an aggregate representation of all respondents' experience with HRM, titled: Persona, Empathy, and Current Journey. The Persona outputs can be described as an avatar representing an aggregate of all responses, providing generalized characteristics of the survey group based on median responses. The Empathy outputs are a visual depiction of four emotion domains: Think & Feel, Hear & See, Pain, Gains, which are common experiential domains within journey mapping work. <sup>28,29,35</sup> While these domains within the *Empathy* output are specific to the journey mapping platform, they were designed to capture emotions experienced throughout the process of discovering and practicing HRM while facilitating empathetic understanding of the participant experience. The Think & Feel and Hear & See domains reflected participant emotions surrounding discovery and practice of HRM. The Pain and Gains domains captured participant emotions reflecting general difficulties and positive outcomes or benefits associated with HRM experience. The domain outputs were informed by the 35-items of the journey map survey and were generated by median scores for items in each of the five decision-making domains. The *Empathy* output also procured an overall emotional experience score, quantifying the overall experience based on the range of emotions felt in learning HRM. Scores may range in values from 0 to 10, with larger values associated with better or more positive experiences. The Current Journey outputs provide a visual depiction of the HRM process, progression through the five journey map domains. The Current Journey outputs mapped Good and Bad Experiences within the healthcare worker's experience with HRM.

Descriptive statistics for survey items were generated in addition to a visual representation of journey mapping results. Content analysis was performed by two authors using a general inductive and manifest analysis approach to categorize open-ended responses and identify areas of salience and divergence. <sup>36,37</sup> The manifest analysis approach to content analysis focuses on what the informants actually say and is well-suited to descriptively assess participants experience with HRM. <sup>38</sup> To encourage quality in qualitative research and to triangulate findings, initial open codes were assigned to open-ended response text by two study authors (LTM and MJW). The two study authors then met to group open-ended responses which reflected similar concepts, identifying similarities and differences in HRM experience and discussing the interpretation of responses. The two study

authors developed a narrative which reflected the experiences of healthcare workers practicing HRM, which was reviewed by a third study author who was a certified HRM instructor and was providing drop-in HRM sessions (LW). Finally, all study authors met to discuss journey map results and identified themes.

### Results

# Quantitative Journey Map Survey Responses

In total, 20 surveys were completed for a response rate of 80%. Of the received responses, 70% identified as women (14) with 85% (17) of respondents identifying as white. The most frequent response categories for education level and annual household income were "Advanced Graduate Work or PhD" and "Over \$100,000," respectively. The journey map *Persona* output (Appendix 1) provides an avatar representing the mean age and most frequent responses from the sample.

From the *Empathy* output (Appendix 2), the overall emotional experience score was an 8.2 out of a possible 10, which suggests that the sample had overall positive experiences with HRM. Individuals overall had initially heard good things about HRM, felt good about their experiences, and looked forward to engaging with HRM. No salient pain points were identified across participants, but individuals appeared to have difficulties comparing HRM to other forms of meditation or well-being practices and understanding what HRM had to offer related to benefits or practice alternatives. Further, the decision to initiate and continue an HRM practice and the associated discomfort associated with the difficulty of these decisions varied across respondents. Descriptive statistics for items comprising each journey map domain are included in Table 1.

From the *Current Journey* output, healthcare workers appeared to have the most difficult time in the *Search* and *Decide* journey map domains. The *Current Journey* output is included in Figure 1.

# Qualitative Journey Map Open-Ended Responses

The process of discovering and engaging with HRM. Healthcare (HC) respondents were referred to HRM through different processes including personal invitations from colleagues and friends, or from an advertisement by the health system or health system wellness programming. Individuals had a wide range of HRM practice experience, which varied from 3.5 to 20 years. Additional quotations and their associated domain can be found in Table 2.

Through a physician at work that had attended the school. About 5 years ago. [HC9]

From a friend. 20 Years ago. [HC4]

Easy decision, I trusted the person who told me about it. [HC14]

Table 1. Descriptive Statistics for Journey Map Items.<sup>a</sup>

Journey Map Domain	Journey Map Item	Minimum	Maximum	Median	IQR
Discovery	Positive initial discovery	4.00	5.00	4.00	1.00
	Lack of detailed information <sup>b</sup>	.00	5.00	1.00	1.00
	Positive thoughts	1.00	5.00	3.00	1.00
	Bad associations <sup>b</sup>	.00	3.00	.00	1.00
	Concerning or uncomfortable information <sup>b</sup>	.00	5.00	1.00	.00
Assess	Difficulty collecting or assessing information <sup>b</sup>	.00	4.00	1.00	.00
	Gaining understanding	1.00	5.00	3.00	.75
	Difficulty gathering information <sup>b</sup>	.00	4.00	1.00	1.00
	Early direction	.00	5.00	3.00	1.75
	Late direction	.00	5.00	2.00	1.75
	Consulting others	.00	4.00	1.00	2.75
	Valid assessment	.00	4.00	1.50	1.00
Comparison	Frustrating comparisons	.00	4.00	1.00	1.00
	Understanding offering	1.00	5.00	3.00	.75
	Liked comparison	3.00	5.00	3.00	.00
	Good feelings	3.00	5.00	3.00	1.00
	Help in comparison	.00	5.00	2.00	1.75
	Did not compare	.00	5.00	1.00	.75
	Difficult decision	.00	4.00	1.00	1.00
Deciding	Frustrating selection <sup>b</sup>	.00	3.00	1.00	.75
	Positive benefits	3.00	5.00	3.00	1.00
	Liked other options	.00	5.00	3.00	1.00
	Easy, stress-free decision	1.00	5.00	3.00	1.00
	Help from resources	.00	4.00	1.00	.75
	Uncomfortable with choice	.00	5.00	.00	1.00
	Need for more or better information	.00	4.00	1.00	1.00
	Positive experiences	3.00	5.00	3.50	1.00
Assist	Regret choice	.00	1.00	.00	1.00
	Look forward to more	1.00	5.00	3.00	1.00
	Continuing experiences	.00	1.00	.00	1.00

<sup>&</sup>lt;sup>a</sup>the total number of responses for all items was 20, with Likert-type items reported as 0 = Strongly Disagree to 4 = Strongly Agree.

bindicates a negative-worded item.

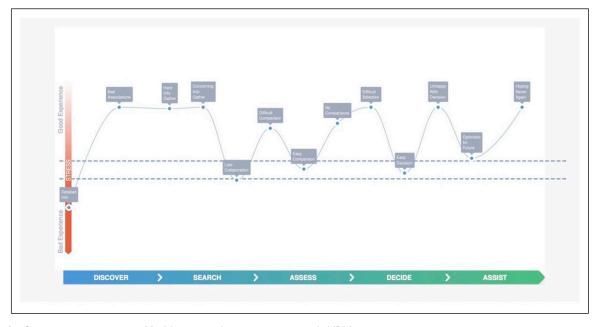


Figure 1. Current journey output: Healthcare workers experience with HRM.

Table 2. Journey Mapping Domains and Quotes.<sup>a</sup>

Journey Mapping Domain	Quotes from Healthcare Workers				
Discovery	From a colleague at work 3.5 years ago [HC16] Advertised on my hospital campus [HC8] From a friend-9 years ago in 2011 [HC3] In a workshop at [redacted] [HC20]				
Search	(+)The experience; was frustrated with lack of research [HC18]  Most enjoyable: Having new altered states of consciousness. (-)Least: The discipline/rigor of doing it "properly." [HC21]  (+)Most enjoyable was feeling accepted by a group of like minded people. [HC15]  (+)Most enjoyable was discovering the whole new world of my heart. (-)Least enjoyable was hyperventilating from trying to control my breathing, and discovering that the method had roots in a spiritual tradition that was not explained or shared up front in the beginning. [HC17]				
Assess	<ul> <li>(+)Compared to meditation I learned in my 20's, I could see how HRM led to real positive changes in the practitioners. [HC19] HRM is spiritual where other focused more on science. [HC12]</li> <li>(+)I really compared the learning forum which I like very much vs other forums. [HC16]</li> <li>I did not compare HRM to other alternatives–I wasn't looking for meditation practices when I came upon HRM. I was asked by a friend if I wanted to go to a meditation workshop. I said 'yes' right away. (+)Many classmates in my first HRM class had tried different methods and found this to be the best so I had no desire to check out other sources. [HC3]</li> <li>The facts were available for HRM and I found myself repeating some of the info I've heard from the leaders when comparing to other forms of meditation styles like TM and why HRM was such a beneficial option [HC13]</li> <li>(+)Due to my initial experience of perceiving energy like I never had before, I was "all in." that is it never occurred to me to compare it to other alternatives. I Had just left another school and wasn't looking for a new approach/teacher. But whenever [redacted] or [redacted] started to meditate I spontaneously felt waves of energy washing through me – I'd never felt this before so clearly. [HC20]</li> </ul>				
Decide	(+)Reading key reference book on it resonated, made sense. finding a nearby teacher made it easy to arrange. So impediments were not great. As HRM practice allowed me to apply the experiences to aspects of my day-to-day life was attractive. [HC2] (+)It was exciting to delve into something new-curiosity-it felt right. [HC3] (+)The benefits of the practice were all I needed for my decision. [HC8]				
Assist	<ul> <li>(+)Gaining confidence about making a difference in the world, noticing how all the moments of the days when I begin with HRM go will ease, flow, decisiveness, and more connection. [HC2]</li> <li>Simple specific practice for going beyond mental intellect to more spacious intuitive awareness. [HC20]</li> <li>(-)That inner voice that comes and goes that wants me to agree that I'm not progressing properly. [HC2]</li> <li>(-)Times of feeling ineffective in my practice. [HC14]</li> <li>Changing expectations. [HC7]</li> <li>(+)Definite relaxation response associated with HRM. [HC5]</li> <li>(+)I have had many, many "hal" experiences and feel that my discipline resulted in great growth in me and both a heightened intuitive capacity and a capacity to remain calm in the face of greater stressors. [HC20]</li> <li>(+)There was such an immediate experience of presence. [HC13]</li> <li>(+)Simple practice. Clear changes in heart rate with breathing. The physical effects are easy to see and understand. [HC10]</li> <li>(+ and -)I liked all my experiences even they were painful at the same time there was the feeling of release. [HC4]</li> <li>(-)The physiological reactivity induced by it – to the point that I have quit practicing it on any sort of regular basis, other than once a week in a group setting. I Have misgivings about discontinuing practice because I have an inkling that I will miss out on realizing some unknown/unguessed-at potential for my failure to face the extreme unpleasantness consistently until it passed and I would reach an even more elevated state of consciousness. But I am "timed out" indefinitely for the most part and continue to grow a lot on my own. [HC20]</li> </ul>				
Benefits	<ul> <li>(+)As mentioned, it greatly contributed to my spiritual/intuitive growth. I love many of the people and puran and susanna are good role models in significant areas. [HC20]</li> <li>(+)A greatly deepened awareness of self, others, and reality as well as a broadened capacity in all areas of life. [HC17]</li> <li>(+)Personal growth, character development, spiritual development and relationship building plus weight loss [HC15]</li> <li>(+)Self-discovery, finding my purpose, internal peace amongst any chaos around me or in the world. I am living a fuller and freer life from healing physical and emotional wounds and having direct experience of source. Ability to embody love, harmony, and beauty. Having a greater effect on my environment than my environment has on me. Having the tools to navigate the ups and downs of life. [HC3]</li> <li>(+)Less anxiety, more concentration, greater mental clarity, personal - emotional - spiritual growth [HC12]</li> </ul>				

 $<sup>^{</sup>a}(+)$  and (-) denote positive and negative comments within the healthcare provider HRM journey as determined during the coding process.

Respondents varied in their process for initially evaluating and discerning their engagement with HRM. Some found the premise for HRM intuitive and that it "felt right" [HC4] and appreciated the physiological basis for HRM. Others, however, wanted more explicit research supporting the HRM practice.

It was new and exciting form of meditation and based on science seemed to make sense. [HC9]

There is not any research in referenced journals about HRM. [HC16]

There are some materials in the teaching [session], but when it comes to more detailed or scientific-based information, it was difficult to get or find. [HC6]

Some participants had experience with other forms of mindfulness-oriented meditation and preferred HRM because of the flexibility, openness, and spiritual but not religious nature of the approach.

HRM helped me focus more than mindfulness. [HC9]

Most enjoyable was connecting my breath with my heartbeatthis felt like I was home. [HC3]

At first, it felt almost like work since I was used to just doing mindful meditating. But once I worked up to it... the benefits of breathing really seemed to have more benefits than mindfulness. [HC11]

Positive Experiences with HRM practice. Most individuals appreciated that HRM was practiced as a group with trained instructors guiding the weekly session. Many found community with their fellow meditators and instructors.

I loved the small group sharing. [HC8]

Feeling accepted by a group of like-minded people. [HC10]

Most enjoyable was the connection to the teachers and students. [HC4]

Many of the healthcare workers also reported benefits to individual growth which they attributed to their HRM practice including improving awareness, gaining confidence, being present, improving relationships, and better engaging with patients and the world.

Daily regular practice that benefited my well-being. [HC11]

Yes. improve relationship capacity and manner, self-trust, regulation of physical health. [HC2]

Deep and vivid experience of my emotions; clarity to negotiate higher salary; ability to authentically connect with and serve my patients. [HC14]

My benefits were strengthening my nervous system, getting selfworth, decision making got easier, there came more clarity into my thoughts and feelings, less fear for everything that is needed to do, more joy, better relationships. [HC4]

# Negative Experiences With HRM Practice

While not a common sentiment, a small number reported challenges and frustration with HRM practice, especially early on as they were gaining experience. Some were initially hard on themselves for not doing HRM properly and comparing themselves to the experiences and abilities of others. Additionally, some individuals noted that it was difficult to establish a daily practice. Lastly, a few respondents shared they had experienced difficulty breathing and uncomfortable emotions, especially when practicing HRM on their own.

Least enjoyable was comparing myself to others in my meditation class that knew more and had deeper experiences than myself. [HC3]

Least enjoyable was to find a daily rhythm and establish a daily practice. Further to go to the deepest emotions as anger, fear, guilt, and breath through it. [HC4]

Initially I felt very incompetent. I went through a period of 4 months where I was drenched in sweat by the end of every 20 min. session – it was most unpleasant, but I persisted...,[HC20]

The ONLY time I can count on it being pleasant is in a group setting. It is still extremely unpleasant at times – a kind of nameless anxiety comes over me that I can barely stand. [HC20]

That inner voice that comes and goes that... I'm not progressing properly. [HC2]

Trying to control breathing, it felt unnatural and caused hyperventilation. [HC17]

### **Discussion**

Overall, the healthcare worker journey with HRM was positive, with an aggregate emotional experience score of 8.2 without salient pain points. Some participants, however, expressed strong emotional reactions at different points in the process and expressed multiple difficulties in their HRM practice. There was variation in how healthcare workers gained an understanding of HRM and making the decision to continue an HRM practice. Other key findings were the importance of group practice and the personal and professional benefits to HRM.

Respondents shared a range of positive sentiments in their open-ended comments including the benefits of the practice on individual growth, self-management, and their ability to engage with patients. This provides some support that meditation practices such as HRM may be especially beneficial in the study population, as the majority of participants had completed advanced graduate work and were practicing

clinicians, a population is especially susceptible to burnout. <sup>39,40</sup> In the existing literature, institutions supporting meditation and mindfulness-based interventions while providing guided meditation and training resources appears to provide individual benefit. <sup>8,9,41,42</sup> More specifically, a study on the effects of "Heartfulness Meditation," a heart-based meditation practice, found that a 12-week program resulted in significant improvements in professional burnout and emotional wellness in residents, faculty physicians, and nurses at a large community teaching hospital. <sup>5</sup>

Additionally, the group nature of HRM sessions that some individuals participated in appeared to provide considerable benefit and may be a key attribute to initial and sustained practice. A recent study by Hanley et al suggests that group meditation may be especially beneficial in producing states of mindfulness and improving feelings of social connectivity compared to a solitary meditation practice. 43 Other interventions commonly offered in group-settings, such as Yoga, have shown positive effects on healthcare worker stress and burnout. 44 Further, social support appears to mediate the effect of burnout in health-professionals, providing additional support that group-based interventions facilitating social support and connectedness may improve healthcare worker well-being. A recent study by Halimi et. al. identified that peer and organizational support, and resilience-fostering programs, supported professional resilience in early career pharmacists. 45 As such, additional research is needed to explore and understand the moderating effects of group-based interventions, such as meditation, on participate experience and outcomes associated with interventions designed to improve healthcare worker well-being.

In addition to the reported benefits of HRM, qualitative responses suggested several challenges which may be useful to incorporate into the development of HRM programs, specifically related to developing a sustainable practice and the need for support. A number of participants reported difficulties establishing a daily practice and experienced negative thoughts, emotions, and physical responses to HRM. Studies have highlighted that negative emotions amongst healthcare workers with the initiation of meditative practice are not uncommon.<sup>46</sup> Further, long practices, emerging negative thoughts, and becoming self-critical were factors identified as key barriers to healthcare workers engaging in a self-help mindfulness-based intervention.<sup>47</sup> When considering the development and provision of meditation interventions, education and interpersonal support may help to improve the initial and sustained practice of meditation and facilitate the development and provision of meditation self-care activities.<sup>48</sup>

# Recommendations for Health Systems and Healthcare Workers

This exploratory study found generally positive experiences for HRM both in the areas of personal and professional growth, but also for community building when people meditate as a group. Health system investment in well-being programs and initiatives like group meditation sessions may help build connectedness and resiliency while potentially mitigating burnout. When encouraging healthcare workers to participate in self-care activities, organizations and institutions may benefit from considering how to support employees to engage in these activities, providing the necessary time and support to have positive experiences, outcomes, and develop sustainable meditation practices. In the instance of healthcare workers HRM practice, providing dedicated work time and access to licensed meditation instructors and other mental-health professionals may contribute to promoting meditation as a self-care activity.

While HRM and other meditation practices may be a potentially beneficial self-care activity promoting well-being and helping individuals cope with burnout, meditation is not a substitute for structural changes and organizational support for employees at a system level to address burnout and employee well-being. <sup>48,49</sup> Additional workplace and organizational level changes are likely needed to prevent burnout and support employee well-being, in addition to the development and provision of evidence-based strategies to promote the health, development, and well-being of healthcare workers.<sup>2</sup>

### Limitations

The study should be considered exploratory, as a small, purposeful sample of healthcare workers were surveyed who already were enrolled in the HRM program. Further, the sample consisted of predominately women and individuals who had completed advanced graduate work, which may limit transferability of findings to other groups. Additionally, many individuals have established long-term HRM practices, and their experiences may differ from individuals with more recent familiarity with HRM. As journey mapping is designed to explore and understand individual experience, no control group (eg those who did not use HRM) was included in the study. Participants who initiated HRM practice but have been unable to sustain practice likely have different journeys and experiences. The survey also may be subject to recall bias as some participants made the decision to practice HRM years before completing the survey, with varying durations of practice, practice setting, and current practice having the potential to impact perceptions and experiences with HRM.

### **Conclusions**

Overall, healthcare workers practicing HRM had generally positive experiences and reported a number of benefits from their meditative practice, including an increased connection with patients and colleagues. Care should be exercised in administering these programs as a small fraction of individuals reported difficult emotions and discomfort in their early experiences with HRM. Most healthcare workers practicing HRM persisted in their HRM practice, even when experiencing difficult emotions and perceived long-term benefits.

# Appendix I

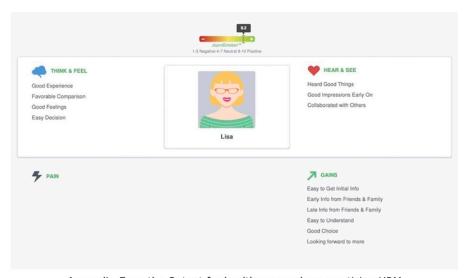
Persona output from journey map, depicting a general summary persona based on demographics and characteristics of all respondents.



Appendix-Persona Output for healthcare workers practicing HRM

# Appendix 2

Empathy output from journey map, depicting the experienced emotions and overall emotion score.



Appendix-Empathy Output for healthcare workers practicing HRM

### **Declaration of Conflicting Interests**

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### References

 Ruisoto P, Ramírez MR, García PA, Paladines-Costa B, Vaca SL, Clemente-Suárez VJ. Social support mediates the effect of burnout on health in health care professionals. Original research. *Front Psychol.* 2021;11:623587. doi:10.3389/fpsyg.2020.623587

 Moss J. Rethinking burnout: When self care is not the cure.
 Am J Health Promot. 2020;34(5):565-568. doi:10.1177/ 0890117120920488b

- Organization WH. Burn-out an "Occupational Phenomenon": International Classification of Diseases. Geneva, Switzerland: World Health Organization; 2019. https://wwwwhoint/mental\_health/evidence/burn-out/en
- 4. Reith TP. Burnout in United States healthcare professionals: A narrative review. *Cureus*. 2018;10(12):e3681.
- Thimmapuram J, Pargament R, Sibliss K, Grim R, Risques R, Toorens E. Effect of heartfulness meditation on burnout, emotional wellness, and telomere length in health care professionals. *J Community Hosp Intern Med Perspect*. 2017;7(1): 21-27. doi:10.1080/20009666.2016.1270806
- Resnicoff M, Julliard K. Brief mindfulness meditation with night nursing unit staff: A qualitative study. *Holist Nurs Pract*. 2018;32(6):307-315. doi:10.1097/hnp.0000000000000293
- Chen H, Liu C, Cao X, et al. Effects of loving-kindness meditation on doctors' mindfulness, empathy, and communication skills. *Int J Environ Res Publ Health*. 2021;18(8):4033.
- Goodman MJ, Schorling JB. A mindfulness course decreases burnout and improves well-being among healthcare providers. *Int J Psychiatry Med.* 2012;43(2):119-128. doi:10.2190/PM. 43.2.b
- Green AA, Kinchen EV. The effects of mindfulness meditation on stress and burnout in nurses. *J Holist Nurs*. 2021;39(4): 356-368. doi:10.1177/08980101211015818
- National Institutes of Health. Meditation: In Depth National Institute of Health-National Center for Complementary and Integrative Health. Bethesda, MD: National Institutes of Health. Accessed July 21, 2021.https://www.nccih.nih.gov/health/meditation-in-depth
- McCraty R. Science of the Heart, Volume 2. Exploring the Role of the Heart in Human Performance. An Overview of Research Conducted by the HeartMath Institute. Boulder Creek, CA: Heartmath Institute; 2016. doi:10.13140/RG2138735128. https://www.researchgate.net/publication/293944391\_Science\_of\_the\_Heart\_Volume\_2\_Exploring\_the\_Role\_of\_the\_Heart\_in\_Human\_Performance\_An\_Overview\_of\_Research Conducted by the HeartMath Institute
- 12. Goyal M, Singh S, Sibinga EM, et al. Meditation programs for psychological stress and well-being: A systematic review and meta-analysis. *JAMA Intern Med.* 2014;174(3):357-368.
- Sharma H. Meditation: Process and effects. Invited article. AYU. 2015;36(3):233-237. doi:10.4103/0974-8520.182756
- Davidson RJ. Affective style, psychopathology, and resilience: Brain mechanisms and plasticity. *Am Psychol*. 2000;55(11): 1196-1214.
- Lutz A, Greischar LL, Rawlings NB, Ricard M, Davidson RJ. Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proc Natl Acad Sci U S A*. 2004;101(46):16369-16373. doi:10.1073/pnas.0407401101
- 16. Hölzel BK, Carmody J, Vangel M, et al. Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Res. Neuroimaging*. 2011;191(1):36-43.

- 17. Breit S, Kupferberg A, Rogler G, Hasler G. Vagus nerve as modulator of the brain–gut axis in psychiatric and inflammatory disorders. *Front Psychiatr.* 2018;9:44.
- Boccia M, Piccardi L, Guariglia P. The meditative mind: A comprehensive meta-analysis of MRI studies. *BioMed Res Int*. 2015;2015:1-11.
- Gerritsen RJ, Band GP. Breath of life: The respiratory vagal stimulation model of contemplative activity. Front Hum Neurosci. 2018;12:397.
- Ruiz-Fernández MD, Ortíz-Amo R, Ortega-Galán ÁM, Ibáñez-Masero O, Rodríguez-Salvador MM, Ramos-Pichardo JD. Mindfulness therapies on health professionals. *Int J Ment Health Nurs*. 2020;29(2):127-140. doi:10.1111/inm.12652
- Hente E, Sears R, Cotton S, et al. A pilot study of mindfulnessbased cognitive therapy to improve well-being for health professionals providing chronic disease care. *J Pediatr*. 2020; 224:87-93. doi:10.1016/j.jpeds.2020.02.081
- Gilmartin H, Goyal A, Hamati MC, Mann J, Saint S, Chopra V. Brief mindfulness practices for healthcare providers—a systematic literature review. *Am J Med.* 2017;130(10):1219.e1-e1219.e17.
- Daigle S, Talbot F, French DJ. Mindfulness-based stress reduction training yields improvements in well-being and rates of perceived nursing errors among hospital nurses. *J Adv Nurs*. 2018;74(10):2427-2430.
- Guidotti R, Del Gratta C, Perrucci MG, Romani GL, Raffone A. Neuroplasticity within and between functional brain networks in mental training based on long-term meditation. *Brain Sci*. 2021;11(8):1086.
- Kim D-K, Rhee J-H, Kang SW. Reorganization of the brain and heart rhythm during autogenic meditation. Front Integr Neurosci. 2014;7:109.
- Edwards SD. Evaluation of heart rhythm coherence feedback training on physiological and psychological variables. S Afr J Psychol. 2014;44(1):73-82.
- Tisdell EJ, Riley TD. The landscape of mindfulness and meditation in adult education: A partial prescription (and critique) for lifelong learning and Well-Being. N Dir Adult Cont Educ. 2019;2019(161):9-20.
- Kaplan K. How to Conduct Research for Customer Journey-Mapping. CA: Nielsen Norma Group. Accessed November 29, 2020.https://www.nngroup.com/articles/research-journeymapping/
- Samson S, Granath K, Alger A. Journey mapping the user experience. Coll Res Libr. 2017;78(4):459.
- McCarthy S, O'Raghallaigh P, Woodworth S, Lim YL, Kenny LC, Adam F. An integrated patient journey mapping tool for embedding quality in healthcare service reform. *J Decis Syst.* 2016; 25(suppl 1):354-368. doi:10.1080/12460125.2016.1187394
- 31. Flood M, Ennis M, Ludlow A, et al. Research methods from human-centered design: Potential applications in pharmacy and health services research. *Res Social Adm Pharm*. 2021; 1217(12):2036-2043. doi:10.1016/j.sapharm.2021.06.015
- 32. Bolt N, Tulathimutte T. *Remote Research: Real Users, Real Time, Real Research.* New York City, NY: Rosenfeld Media; 2010.

- Hammersley M, Atkinson P. Ethnography: Principles in Practice. London, UK: Routledge; 2007.
- Hackett PM, Hayre CM. Handbook of Ethnography in Healthcare Research. London, UK: Routledge; 2020.
- 35. AIHR Digital. *How Employee Journey Mapping Can Change the Employee Experience*. Amsterdam, The Netherlands: AIHR Digital. Accessed November 29th, 2020.https://www.digitalhrtech.com/employee-journey-mapping/
- 36. Kyngäs H. *Qualitative Research and Content Analysis. The Application of Content Analysis in Nursing Science Research.*New York City, NY: Springer; 2020:3-11.
- Forman J, Damschroder L. Qualitative Content Analysis. Empirical Methods for Bioethics: A primerBingley, UK. Emerald Group Publishing Limited; 2007.
- 38. Bengtsson M. How to plan and perform a qualitative study using content analysis. *NursingPlus Open*. 2016;2:8-14. doi: 10.1016/j.npls.2016.01.001
- De Hert S. Burnout in healthcare workers: Prevalence, impact and preventative strategies. *Local Reg Anesth*. 2020;13: 171-183. doi:10.2147/lra.S240564
- Leo CG, Sabina S, Tumolo MR, et al. Burnout among healthcare workers in the COVID 19 era: A review of the existing literature. Front Public Health. 2021;9:750529.
- 41. Murthy VH. Confronting health worker burnout and well-being. *N Engl J Med.* 2022;387(7):577-579. doi:10.1056/NEJMp2207252
- Salvado M, Marques DL, Pires IM, Silva NM. Mindfulness-based interventions to reduce burnout in primary healthcare professionals: A systematic review and meta-analysis. *Healthcare (Basel)*. 2021;9(10):1342. doi:10.3390/healthcare9101342

- Hanley AW, Dehili V, Krzanowski D, Barou D, Lecy N, Garland EL. Effects of video-guided group vs. solitary meditation on mindfulness and social connectivity: A pilot study. *Clin Soc Work J.* 2021;50:316-324. doi:10.1007/s10615-021-00812-0
- Cocchiara RA, Peruzzo M, Mannocci A, et al. The use of Yoga to manage stress and burnout in healthcare workers: A systematic review. *J Clin Med*. 2019;8(3):284.
- 45. Halimi SN, Rowett D, Whitfield K, Luetsch K. How early career pharmacists understand resilience a qualitative study of experiences, challenges and strategies. *Res Soc Adm Pharm*. 2022. doi:10.1016/j.sapharm.2022.10.012. In Press.
- Negus NH, Grobler G. How can a 6-week training course shape mental healthcare professionals' understanding of mindfulness? Experiences at Weskoppies Psychiatric Hospital. S Afr J Psychiatr. 2021;27:1-7.
- 47. Banerjee M, Cavanagh K, Strauss C. A qualitative study with healthcare staff exploring the facilitators and barriers to engaging in a self-help mindfulness-based intervention. *Mindfulness (N Y)*. 2017;8(6):1653-1664. doi:10.1007/s12671-017-0740-z
- 48. Lynch J, Prihodova L, Dunne PJ, et al. Mantra meditation programme for emergency department staff: a qualitative study. *BMJ Open.* 2018;8(9):e020685. doi:10.1136/bmjopen-2017-020685
- National Academies of Sciences E, Medicine. Taking Action against Clinician Burnout: A Systems Approach to Professional Well-Being. Washington, DC: National Academies of Sciences E, Medicine; 2019.