

Results from the National Taskforce for Humanity in Healthcare’s Integrated, Organizational Pilot Program to Improve Well-Being

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Background: In health care, burnout remains a persistent and significant problem. Evidence now exists that organizational initiatives are vital to address health care worker (HCW) well-being in a sustainable way, though system-level interventions are pursued infrequently.

Methods: Between November 2018 and May 2020, researchers engaged five health system and physician practice sites to participate in an organizational pilot intervention that integrated evidence-based approaches to well-being, including a comprehensive culture assessment, leadership and team development, and redesign of daily workflow with an emphasis on cultivating positive emotions.

Results: All primary and secondary outcome measures demonstrated directionally concordant improvement, with the primary outcome of emotional exhaustion (0–100 scale, lower better; 43.12 to 36.42, $p = 0.037$) and secondary outcome of likelihood to recommend the participating department’s workplace as a good place to work (1–10 scale, higher better; 7.66 to 8.20, $p = 0.037$) being statistically significant. Secondary outcomes of emotional recovery (0–100 scale, higher better; 76.60 to 79.53, $p = 0.20$) and emotional thriving (0–100 scale, higher better; 76.70 to 79.23, $p = 0.27$) improved but were not statistically significant.

Conclusion: An integrated, skills-based approach, focusing on team culture and interactions, leadership, and workflow redesign that cultivates positive emotions was associated with improvements in HCW well-being. This study suggests that simultaneously addressing multiple drivers of well-being can have significant impacts on burnout and workplace environment.

Burnout among physicians, care team members, and other health care workers (HCWs) remains a persistent and significant problem.^{1–11} Although some variations exist in HCW burnout measures, prevalence among physicians, nurses, and other members of the clinical workforce is substantial, with estimates ranging from 30% to 60%. Moreover, well-being challenges for HCWs have persisted or worsened over the past decade despite extensive attention and numerous calls for action in the United States and globally.¹

Several frameworks exist to evaluate burnout. Current models include the Maslach Burnout Inventory (MBI), which assesses the individual’s experience of work, as well as more holistic socio-technical paradigms that emphasize individual, group, and external factors such as technology, policy, and practice environments.^{12–14} Because these frameworks primarily focus on individual and organizational deficits or “problem states,” most measurement ef-

forts also focus on the magnitude of the problem, such as number of hours spent documenting in the electronic health record (EHR) after hours,¹⁵ or the degree of suffering, such as to what degree people feel burned out from work.¹⁶

Evidence suggests that well-being interventions targeting individual HCWs show limited impact in improving burnout.^{17–19} Organizational initiatives are vital, although system-level interventions are pursued infrequently. In addition, a majority of studied organizational interventions focus on reducing overwork or mitigating negative experiences, such as stress and misalignment with leadership, that are captured in existing measurement approaches.^{17–19} Nevertheless, reducing the presence of something bad does not ensure the presence of something good. Specifically, reducing burnout to low levels does not ensure that HCWs are routinely achieving their best performance or the aspirational goal of “restoring joy to practice.” What is needed are alternative strategies to promote well-being and thriving.

Some thought leaders have proposed frameworks for organizationally targeted approaches,^{20,21} but typically these approaches lack the degree of specificity needed to take an integrated approach to improve well-being. As a result,

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many health care leaders and professionals feel stuck between deploying evidence-based, individually targeted interventions (for example, meditation, exercise, nutrition) that shift the burden of improving well-being onto HCWs and waiting for top-down system-level redesign of key drivers such as information technology, regulations, policy, leadership strategy, and financial incentives.

Strong evidence illustrates that burnout and well-being are not simply a matter of HCWs' experiences, but also are tied to performance on diverse metrics, including patient safety events, diagnostic errors, patient/family experience, recovery times, and health care spending on tests and procedures. Burnout also is correlated directly with lower employee engagement and higher rates of physician and nurse turnover, sources of excess cost for care delivery organizations and overall health care spending. Multiple studies link it to increased rates of depression and suicide.^{12,22-29}

Ongoing dynamic changes in health care, disruptions from the COVID-19 pandemic, and pressures to provide more and better care with fewer resources will only increase stress in the coming years. As a result, deploying and evaluating integrated, practical, and sustainable solutions to improve well-being are vital if HCWs are to do their best work and delivery systems are to meet the needs of their communities.

Beginning in 2015 the National Taskforce for Humanity in Healthcare (NTH) convened to address this challenge. The NTH coordinated structured conversations with physicians, nurses, and leaders from more than 40 care delivery, academic, research, technology, and policy organizations in health care, including representatives from Dell Medical School at the University of Texas at Austin, Duke University, Johns Hopkins University, University of Colorado, University of Iowa, University of Texas Medical Branch, and University of Virginia (see the Appendix section, "Detailed Description of National Taskforce for Humanity in Healthcare" and Supplementary Tables 1-3, available in online article). This research allowed the NTH to identify three steps to address well-being in health care³⁰:

1. Change the dialog around burnout from one that sees burnout as a personal psychological failing to acknowledgement of a system in distress. Through this reframing, shift the aim from burnout prevention to creation of a system that supports well-being and joy.
2. Adopt a metric for humanity that focuses less on deficit measurement (burnout) and more on understanding the causes and consequences of emotional thriving and emotional recovery.
3. Create a blueprint for change that supports a systematic shift in culture toward a human-centered care system. Change must occur at all levels within organizations and cascade across all decisions related to people, processes, and technology.

In 2018 the Institute for Healthcare Excellence (IHE), a founding partner of the NTH and national organization dedicated to helping health care organizations transform their culture and clinical operations, sought to turn the work of the NTH into outcomes through a national pilot program focused on an integrated, organizational approach to enhance well-being. The pilot program set explicit SMART (specific, measurable, achievable, realistic, timely) objectives based on existing literature and an aim of establishing "stretch goals." Specifically, we sought within 12 months of implementing the pilot program to improve HCW emotional exhaustion at participating sites by 10% and increase HCW emotional recovery and thriving by 5%.

METHODS

Participating Sites

Between March 2018 and January 2019 we approached health system and physician practice sites about the pilot program. The program was advertised through professional networks and ultimately enrolled five participating departments, hereafter A-E (Appendix: Supplementary Table 4).

Intervention

We designed the intervention based on existing literature describing methods known to reduce burnout, enhance well-being, and promote thriving,^{12,18,19,31,32} as well as practical experience garnered from preceding work on well-being by the NTH and IHE. The pilot intervention involved three phases: (1) assessment and feedback using the three well-being scales below to ascertain not only sources of burnout but also thriving; (2) cultural transformation sessions using a skills-based approach focused on human-centered leadership, teamwork, and one-on-one interactions; and (3) redesign of daily work through process and experience mapping as well as user-centered design of "Always" events, which allowed participants to identify removable hassles and opportunities to amplify joy-producing events in daily work. A more detailed description of the pilot intervention steps is available in the Appendix. [Figure 1](#) shows the pilot intervention components and time line, which required selected departments to pursue a 9-to-12-month implementation period and time commitments outlined in [Table 1](#).

The intervention had several unique features relative to other published studies. First, the intervention was designed for participation by all department workforce members, rather than a subset such as practicing physicians, nurses, or physicians in training only. Second, the intervention elements moved beyond individual skills and coping methods to focus in an integrated fashion on team culture and interactions, leadership, workflow processes, and use of technology. Third, while the intervention sought to remove or mitigate causes of workforce distress, it simultaneously focused in every step on embedding evidence-based positive

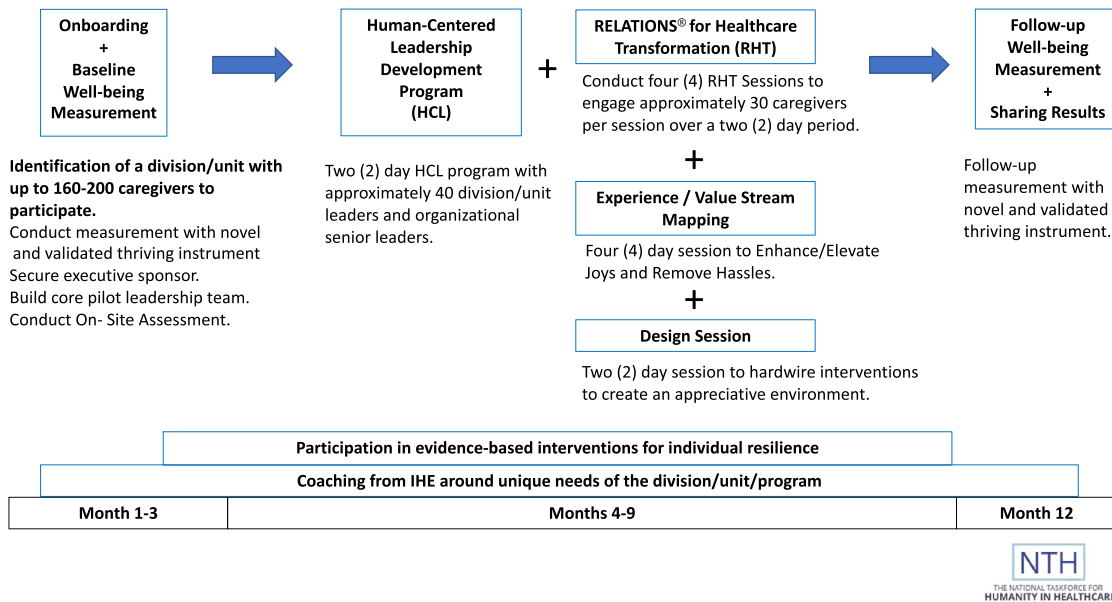


Figure 1: This diagram displays an overview of the National Taskforce for Humanity in Healthcare (NTH) program. IHE, Institute for Healthcare Excellence.

emotion practices into daily workflows and human interactions, something typically absent from most widely adopted improvement methods. In general, tactics to achieve this goal focused on building skills for all team members to create stronger and more meaningful connections with others, which induce positive emotions in each interaction. As an example, if a department’s presurvey data illustrated reasonable levels of emotional thriving but low levels of emotional recovery (ability to bounce back from stress), a targeted micro-intervention might focus on embedding more access to pride in daily work. A team might do this by placing photos of “fridge-worthy moments” in a public space in their clinic and cultivate team-based conversations about these photos. Alternatively, if presurvey data illustrated low levels of both emotional thriving and emotional recovery, then a targeted micro-intervention would focus on amplifying expressions of gratitude between team members. A team might do this by ending group meetings with an invitation for every person to share one appreciation about the team. Specific interventions were selected based on emerging literature showing that eliciting particular emotions has measurable impact on emotional recovery and emotional thriving.^{31,32} The goal was to make cultivation of positive emotions deliberate, frequent, and consistent.

Assessment

The pilot intervention used a validated set of three well-being scales to capture not only burnout (emotional exhaustion [EE]), but also emotional thriving and emotional recovery.³¹⁻³³ To help quantify EE, we built upon previous work with patients experiencing work-related neurasthenia, which identified methods for discriminating between those

who were burned out and those who were not.^{34,35} We used a five-item derivative of the original nine-item Maslach Burnout Inventory EE scale. One example of these items is “I feel frustrated by my job.” Participants respond using a five-point scale (1 = disagree strongly, and 5 = agree strongly), and mean scores are rescaled to 0 to 100. As described by Sexton and colleagues, scores of 3 or greater on the five-point Likert scale are concerning for EE, with higher scores signifying more EE (percentage EE was calculated using percentage of respondents with a mean score of neutral or higher on the 5-point Likert scale).^{31,36}

Emotional thriving (ET) asks about the level of flourishing of a respondent (for example, “I have a chance to use my strengths every day at work”) and is akin to the opposite of EE. Emotional recovery (ER) assesses the extent to which one is able to bounce back from adversity or emotional upheavals (for example, “My mood reliably recovers after frustrations and setbacks”). As with EE, participants respond to ET and ER using a five-point scale (1 = disagree strongly, and 5 = agree strongly), and mean scores are rescaled to 0 to 100, with higher scores signifying more ER/ET. ER and ET share only about 10% of their variance, so possessing reported ability at recovery does not ensure thriving, and vice versa. They are responsive to well-being interventions, including cultivation of positive emotions, and are psychometrically sound metrics.³² Percentage agreement for ET and ER was calculated by adding “Agree Slightly” and “Agree Strongly”. For Likelihood to Recommend we report the mean on a 10-point scale as well as the percentage 7 and higher.

Our primary outcome was EE, with secondary outcomes being ER, ET, and likelihood to recommend an HCW’s department as a good place to work. Participants from the five

Table 1. Commitments and Activities for Each Site, by Role, Related to Program Participation		
Role	Required Activities	Time Commitment
IHE Faculty Team Delivering Program		
Core Facilitation Team	<ul style="list-style-type: none"> • Participant solicitation • Presentations to prospective sites on program benefits and requirements • Program orientation and kickoff with leaders • Data solicitation, preparation, and analysis • Scheduling in-person visits • Facilitation of each visit/program step • Preparation of reports and presentations for each program step • Monthly follow-up calls with each department • Reports to pilot program executive partners and funders 	150 hours
Process Improvement Consultant	<ul style="list-style-type: none"> • Process flow data acquisition and analysis for experience mapping • Process analysis (observations + interviews) • Process flow map creation • Facilitation of process redesign workshop, with identification of root causes, prioritization of interventions, and project/SMART goal creation 	50 hours
Pre/Post Data Analysis	<ul style="list-style-type: none"> • Preparation of survey tool on burnout, recovery, thriving, and team/culture climate • Data collection before intervention • Comparative analysis of preintervention results against HCW database • Presentation of comparative analysis, key insights, and potential areas for intervention prior to experience mapping • Data collection after intervention • Comparative analysis of postintervention results against HCW database 	10 hours
Program Participants		
Department Medical, Nursing, or Admin Lead(s)	<ul style="list-style-type: none"> • Orientation call • Oversight of data collection plan • Recruitment of workforce participation in on-site activities • Scheduling of all virtual meetings and on-site meetings • Monthly planning and coaching calls • Participation in on-site leadership, teamwork, experience mapping, and design sessions • Executive report outs to organizational leadership • Oversight of intervention sustainability 	50 hours
Project Champions (physicians, nurses, other HCWs)	<ul style="list-style-type: none"> • Participation in on-site leadership, teamwork, experience mapping, and design sessions • Design and execution of locally developed improvement projects and SMART objectives • Development of data collection plan • Executive report outs to organizational leadership • Ownership of intervention sustainability 	40 hours
Frontline HCWs	<ul style="list-style-type: none"> • Participation in teamwork session • Participation in interview and process observations • Engagement in redesign projects 	5 hours

(continued on next page)

selected departments across the four pilot sites were invited to participate in a Web-based survey, which was e-mailed to each potential respondent as a link. We collected primary and secondary outcome data for all HCWs within each selected department and allowed respondents to select their role. Participants were told that their responses were

confidential; however, it did include open-ended questions in which respondents could choose to identify themselves through their answers. There was no incentive to participate in the survey, but it was framed as informing future well-being and quality improvement efforts in their work setting. The well-being survey component of this study, col-

Table 1. (continued)

Role	Required Activities	Time Commitment
Site Process Improvement Specialists (if available)	<ul style="list-style-type: none"> Participation in final two days of experience mapping session, to integrate terminology, tools, and methods into local improvement efforts and support sustainability of locally developed improvement projects and SMART objectives 	15 hours
Site Data Analysts (if available)	<ul style="list-style-type: none"> Support with data acquisition and analysis from data sources within each organization related to improvement projects and SMART objectives 	20 hours

SMART, specific, measurable, achievable, realistic, timely.

Table 2. Primary Outcomes by Selected Department, Before and After Implementation

Unit of Analysis and Response Rate	Pooled sites* Pre: n = 158; Post: n = 142	Dept A Pre: n = 49; Post: n = 43	Dept B Pre: n = 17; Post: n = 12	Dept C Pre: n = 42; Post: n = 33	Dept D† Pre: n = 50; Post: n = 54
Burnout/ Emotional Exhaustion‡	43.12–36.42; p = 0.037	47.14–40.93	40.59–19.58	38.04–33.48	44.30–38.36
Likelihood to Recommend Workplace§	7.66–8.20; p = 0.037	8.22–7.86	6.24–8.50	7.69–8.50	7.56–8.25
Emotional Recovery	76.60–79.53; p = 0.20	77.81–80.09	76.59–94.79	81.70–82.20	71.13–74.07
Emotional Thriving	76.70–79.23; p = 0.27	77.81–80.09	68.01–91.67	84.97–83.90	71.63–72.92

* Statistical analysis only possible for pooled data. As described in the Methods section, department E was excluded.
 † Postsurvey was concurrent with COVID-19 pandemic
 ‡ 0–100 scale, lower better.
 § 1–10 scale, higher better, yes = score of 7 or higher.
 || 0–100 scale, higher better.

lecting primary and secondary outcomes, was approved by the Duke University Health System Institutional Review Board (IRB Pro00083427).

Statistical Analysis

Respondent demographic variables and well-being items were subjected to descriptive analysis. Cronbach alpha assessed the internal reliability of the three well-being scales, with values above 0.70 considered acceptable.³⁷ Internal consistency in this study for EE, ET, and ER was good (Cronbach alphas at baseline = 0.883, 0.817, 831, and Cronbach alphas at follow-up = 0.882, 0.793, 880, respectively). We used *t*-tests to assess improvements in well-being from baseline to the 12-month postintervention surveys. We focused on obtaining 60% or higher response rates from each selected department during the pre-and postsurveys to ensure adequate representation of respondents and sufficient statistical power for the primary outcome. Scores for EE, ER, and ET also were compared to an existing archive of HCWs from the United States.³⁶

Of note, because this pilot program occurred between late 2018 and spring 2020, the US COVID-19 pandemic began concurrently with the postintervention resurvey (for primary and secondary outcomes) for department D. In addition, due to a coordination issue and workforce turnover, department E surveyed different people across the pre-and

postsurvey time periods. Specifically, a large minority of respondents to the presurvey did not complete all components of the intervention. In addition, a large minority of respondents to the postsurvey joined the intervention late and completed only some components. This inconsistency in the study population and the sample size precluded valid statistical analysis of outcomes at department E, which was excluded from the analysis. Finally, we excluded the Admin Support (for example, clerk, secretary, receptionist) role from the pooled analysis, as the vast majority of intervention efforts targeted clinical workflows and interactions unrelated to administrative support.

RESULTS

Across the four departments included in our analysis we received 206 of 262 respondents (response rate 78.6%) on the presurvey and 193 of 254 respondents (response rate 76.0%) on the postsurvey, among which 158 presurvey responses and 142 postsurvey responses were included in the pooled analysis based on exclusion of the Admin Support role. Descriptive analysis, by role, of survey respondents showed relatively balanced distribution of the health care workforce, pre to post (attending/staff physician 27.5% vs. 24.6%; clinical/support (for example, certified medical assistant, nurse’s aide) 20.6% vs. 19.0%; dietitian/nutritionist

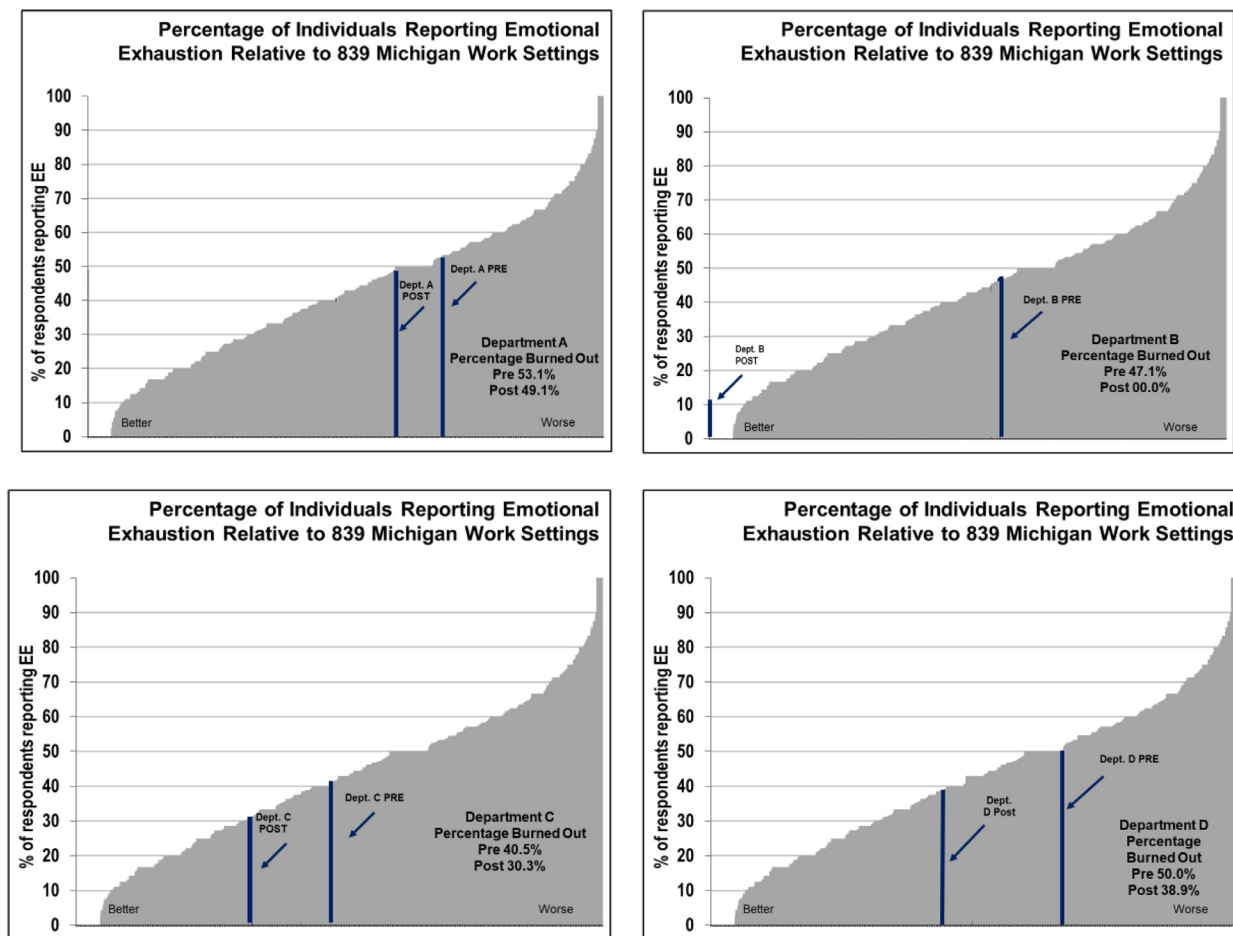


Figure 2: These charts provide a comparison of emotional exhaustion from pre to post relative to a previously published distribution on USA health care work settings. EE, emotional exhaustion.

0% vs. 0.7%; fellow physician 2.5% vs. 2.1%; nurse manager/charge nurse 1.9% vs. 1.4%; other 11.3% vs. 11.3%; other manager (clinic manager) 8.1% vs. 6.3%; physician assistant (PA)/nurse practitioner (NP) 13.1% vs. 18.3%; RN 15.0% vs. 15.5%; technologist/technician (lab, radiology, surgery) 0% vs. 0.7%).

In pooled analysis of these four selected departments, improvement in the primary outcome of EE (0–100 scale, lower better; 43.12 to 36.42, $p = 0.037$) was statistically significant. This corresponds to 48.1% reporting emotional exhaustion pre and 34.5% post. For the secondary outcome evaluation item (“On a scale from 0–10, how likely are you to recommend this as a place to work to a friend or relative?”) the presurvey mean was 7.66, and the post-survey mean was 8.20 ($p = 0.037$), which also was statistically significant. This corresponds to 78.5% pre and 83.3% post. ER (0–100 scale, higher better; 76.60 to 79.53, $p = 0.20$) and ET (0–100 scale, higher better; 76.70 to 79.23, $p = 0.27$) improved but were not statistically significant (Table 2). For ER, ET, and likelihood to recommend, at least 75% of participating departments showed improvement (Table 2). Comparison of relative levels of EE against the aforementioned US HCW database demonstrated re-

duction in percentage of burnout for all participating departments (Figure 2).

In pooled analysis, there was considerable variance by role in pre-pilot rates of EE (low of 38.5 for managers to high of 57.1 for NPs/PAs), ER (low of 54.5 for nurses to high of 76.2 for managers and NPs/PAs), and ET (low of 31.8 for nurses to high of 86.4 for physicians) (Appendix: Supplementary Table 5). After the pilot intervention, all roles reported a decline in EE ranging from 5.2 points for managers to 26.3 points for NPs and PAs. Overall, respondents identifying as physicians, NPs, PAs, nurses, and “other” experienced a decline in burnout (EE) scores of greater than 13 points. Changes in ER and ET scores were mixed, with three roles (nurses, managers, and “other”) experiencing an increase in ER and four roles (NPs/PAs, nurses, clinical support staff, and “other”) experiencing an increase in ET (Appendix: Supplementary Table 5).

DISCUSSION

This pilot intervention was associated with statistically significant reductions in emotional exhaustion and improvements in recommending participating departments as a

place to work. Trends suggesting improvement in emotional recovery and emotional thriving were promising but were not statistically significant. These findings are important because burnout remains a significant problem in health care, affecting all members of the workforce, and well-being has not substantially improved in the past decade despite widespread attention and an increasing number of studied interventions.

The intervention was a comprehensive, integrated pilot program that aimed to improve both burnout and overall individual, team, leadership, and organizational well-being by simultaneously addressing culture, leadership, teamwork, and clinical workflows. Although this approach took considerable investment of time and effort, it demonstrated meaningful results in less than one year, a relatively short time for a change effort affecting all of the domains above. An investment of this type may reduce turnover and time away from work, both of which are costly to organizations,^{21,30} and future research should formally quantify return on investment (ROI). Importantly, the breadth of specialty engagement and success suggests broad applicability to multiple care delivery settings.

This pilot intervention appears to be unique in its consistent, integrated emphasis on identifying what is going well in daily work and methods for cultivating and increasing access to positive emotions at work. Because the practice of identifying, cultivating, and expanding experience of positive emotions requires more time to hone than structural interventions (such as EHR changes or giving physicians more time off from work), we believe it may take more than six months after completing interventions (the average time when remeasurement occurred) for the secondary measures to improve. Although the intervention did not meet the predetermined aim of improving emotional thriving and emotional recovery by at least 5% for all participants, these did show encouraging early trends toward improvement. Equally important, emotional exhaustion fell by 7% for HCWs overall and by more than 10% for physicians, NPs, PAs, and nurses. This is a larger improvement than is found in many published studies of existing well-being interventions and fits with the level of change deemed meaningful in other studies.^{31,32,36,38} Moreover, these results are comparable to some of the most impactful interventions published by Shanafelt, Dyrbe, West, and others.^{39,40}

Study data showed significant variance by role in primary and secondary outcome measures. EE declined for all roles, but we found that ER did not seem to improve when the baseline score was above ~65 similarly, ET did not improve when the baseline score was above ~70. This may point to a ceiling effect in the measure or insufficient statistical power for the subgroups. These findings suggest that capturing sufficient data for role-based analysis will be critical in future research. Importantly, data analysis demonstrated that the 13-item scale used in this intervention requires at least 60% of the respondents from

each role to be the same on the pre-and postsurveys. Ideally, the same respondents complete the survey before and after each intervention. This may limit the utility of this instrument to environments in which the workforce is relatively stable.

It also appears, based on these results, that the EE component of burnout appears to move sooner—in concert with metrics such as intention to stay and overall employee engagement—than do ER and ET. This fits with findings in previous well-being research.³² Further study of the correlation between burnout reduction and enhancement of recovery and thriving is important, as other research suggests that physicians are more resilient than the average US worker.⁴¹

Together, these findings provide encouraging insights regarding how health care should be approaching burnout. Focusing on weaving positive emotions into facets of daily work, in small and frequent doses, may create substantial improvements in EE. Unfortunately, this approach is often absent in current efforts focused on structural change. In addition, an integrated approach, targeted to the clinical workflows and daily interactions between HCWs, patients, and leaders, is a missing link in the predominant approaches, which tend to focus on rescue care (employee assistance programs, referral to psychology/psychiatry services), individually focused coping activities (meditation, exercise, time off/schedule adjustments), or high-level systemic change (EHR redesign, senior leadership attention to burnout, creating chief well-being officer roles). Findings from this pilot study suggest that national investments in capacity to support HCWs in an approach similar to the described intervention may provide a helpful addition or alternative to existing efforts. Our current infrastructure for quality, safety, and efficiency of care does not adequately support the well-being of HCWs, as reflected in data on rates of burnout. Given the COVID-19 pandemic and its impact on HCWs, we need even more attention on efforts like this intervention, at scale, to make a meaningful impact on HCW well-being.

We learned important lessons about deploying the intervention that should inform future work on HCW well-being. First, enrolling clinical departments, with explicit support from senior organizational leaders, is critical but can be quite difficult. We sought 10 participating departments, but enlisted only 5 due to a variety of barriers. These included lack of sufficient leadership support, absence of a budget for this work, organizational priorities that were deemed more pressing, poor understanding of the link between well-being and organizational performance metrics, perceived lack of financial ROI, and a belief that less time-intensive interventions such as brief online modules or short classes could adequately address well-being. The primary catalysts to overcoming barriers to participation were (1) strong engagement from leaders and (2) grasping the likely ROI in both financial terms and morale/retention.

Second, garnering participation by all members of a selected clinical department is also critical but can be challenging. We witnessed frequent expressions of resistance from key stakeholders. For example, frontline workers reported feeling that leaders should bear most of the responsibility for improving well-being rather than busy HCWs, that they didn't have time, or they were too burned out to engage. Physicians sought to avoid showing their vulnerability to burnout in front of their peers, held up loss of clinical revenue as a financial penalty for participation, and argued that they simply need more staffing to delegate tasks they don't like. Leaders reported too many competing obligations to participate, a desire to avoid difficult cultural work in which frontline HCWs might hold them accountable for poor work climate, and a belief that focusing on only one element (such as better hiring, staffing, or technology) would solve all well-being issues.

This study has a number of limitations. It was not designed as a randomized controlled trial or formal case-control study, and thus we cannot guarantee that our findings are due to the intervention rather than general factors influencing the participating sites. Anecdotal comments from leaders and participants, who reported numerous benefits and positive changes not witnessed in other parts of their organizations, suggest that the intervention may have had a valid impact. Selection bias was present, as we sought early adopters and clinical departments willing to test the pilot intervention without definitive, predetermined proof of efficacy. Another limitation was diversity of participating sites, which—with the exception of department E (an inpatient unit) that was excluded as discussed above—were outpatient, nonacademic settings. It is worth noting, however, that comparison of our selected departments' data against published US data revealed that they were not outliers in terms of their burnout (EE), and thus likely represent typical clinics, units, and departments in the United States.^{1,36}

Each participating department selected individualized structure, process, and outcome metrics related to local improvement projects as part of the pilot, but because these were not consistent across departments, statistical analysis was not possible for these metrics. In addition, existing models of financial benefit and ROI rely primarily on reduced turnover as burnout falls. An important limitation of our study is therefore that the intervention design—as a pilot program—lasted less than one year, whereas changes in turnover are measured only over longer time periods. Thus, we were not able to collect turnover data and calculate an actual ROI figure for the intervention, making financial benefit for the pilot a projection, rather than a definitive outcome. Future research should focus more on measuring long-term ROI. We did not seek to spread the intervention beyond the selected departments to an entire care delivery system, although based on requests for spread we have de-

veloped a comprehensive method for transferring this capability to the organization (see the Appendix section “Diffusion of NTH Intervention Throughout the Healthcare Organization”). Finally, the arrival of the COVID-19 pandemic in late winter and spring of 2020 may have influenced the postsurvey data for primary and secondary outcomes at one of the departments, and determining the impact of COVID-19 on our outcomes was not possible in our data set.

CONCLUSION

We describe a national pilot program intervention to improve HCW well-being, which demonstrated promising preliminary results in well-being and workplace norms. The intervention engaged HCWs in a unique manner by using an integrated approach to facilitate redesign of leadership, teamwork, and individual habits, as well as systematic cultivation of positive emotions in daily work. With high rates of burnout in health care likely to increase from the COVID-19 pandemic, these findings merit further exploration and adoption of similar approaches to enhance HCW well-being.

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Conflicts of Interest. All authors report no conflicts of interest.

SUPPLEMENTARY MATERIALS

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.jcjq.2021.05.010](https://doi.org/10.1016/j.jcjq.2021.05.010).

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