

PILOT STUDY

THE HEART OF GRINNELL: A COMMUNITY-WIDE RURAL HEALTH WELLNESS INITIATIVE: A PILOT OBSERVATIONAL STUDY AND A PROSPECTIVE STUDY DESIGN

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In 2007, the leadership team at Grinnell Regional Medical Center participated in a pilot project with the Institute of HeartMath (IHM) to assess the stress level of individual team members and its effect on the organization.

At the beginning of the project, the leadership team completed a Personal and Organizational Quality Assessment (POQA-R). Results showed that a high percentage of the participants were experiencing fatigue, anxiety, difficulty sleeping, and depression.

The leadership team participated in a Transforming Stress workshop and began using IHM techniques to deal with the stresses in their personal and professional lives. A 1-month follow up revealed improvement in six of the 10 categories assessed: fatigue, anxiety, depression, anger management, resentment, and stress symptoms.

Based on this success, GRMC and IHM initiated The Heart of Grinnell: A Community-Wide Rural Health Wellness Initiative to determine if these results could be replicated on a community level. This project is a health and disease promotion, chronic disease prevention, and education wellness initia-

tive. Located in Grinnell and Poweshiek County, Iowa, this initiative is a multicomponent, community-wide intervention that includes Grinnell College, schools, churches, businesses, social service agencies, local government, and Grinnell Regional Medical Center in partnership with IHM and the University of Iowa College of Public Health. At the center of this project is the goal of training community groups on using a scientifically researched program created by the IHM designed to reduce stress and increase coherence. Coherence implies order, structure, harmony, and alignment among systems—whether in cells and organs, entire organisms, or social groups including communities and counties.

The primary objective of The Heart of Grinnell project is to measure the results of a community-wide program to increase community coherence and stress reduction in order to improve adherence to positive wellness behaviors; physical biometrics; productivity by reducing absenteeism and improving workplace morale; and coherence in the workplace, schools, homes, and community.

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Stress has become epidemic in our society. A quarter of American adults report having high levels of stress, and more than 50% report having moderate stress levels in the past year.¹ It is one of the top health risk factors in the United States, leading to depression and other mental illnesses and chronic health conditions such as hypertension, diabetes, and heart disease.¹ In the landmark Roseto study, researchers noted the importance of social connections and family

support systems that may have protected members of the community against heart disease.² Inspired by important community health studies like the Framingham and Roseto studies, a new vision of a community-wide wellness initiative is developing.

Over the years, exercise, massage, yoga, therapy, prayer, and meditation have been recommended as ways to manage stress. These are effective, although what is often missing with these approaches to reducing stress is they are used after the fact to help recover from the effects of the stress, not in the heat of the moment or when stressful reactions have taken control of our emotions and physiology. What is needed are interventions that can improve self-regulation of stressful feelings and reactions, thus reducing the source of the stress.

Not long ago, life in rural America seemed to move at a slower pace. Midwestern towns, like Grinnell, Iowa, used to feel insulated in the middle of the country. The turbulence of the world now comes to our rural communities through instant messaging, the Internet, and a 24-hour news cycle. The absence of jobs forces workers to commute to other communities, and family farms are giving way to large corpo-

rate farms. Small towns are getting smaller, and the social support networks of previous generations are quickly fading away and perhaps with them, the greater sense of community pride and spirit. It isn't that close-knit neighborhoods and communities haven't had stressful situations to overcome in the past, but the social support networks they had allowed them to face those situations without being overwhelmed. These individuals and communities were resilient and able to respond effectively to challenges together and work toward common goals.²

The community of Grinnell has a little fewer than 10000 residents and is located 50 miles east of Des Moines and 60 miles west of Iowa City. Grinnell Regional Medical Center (GRMC) is a private, nonprofit and non-tax-supported community hospital serving more than 47000 residents in a six-county rural area of east central Iowa. The Heart of Grinnell project was born out of the successes that Grinnell Regional Medical Center experienced through two employee health and wellness initiatives, the "I Choose Health" employee wellness program and the Transforming Stress workshop. It is a multicomponent, community-wide rural health intervention that includes groups within Grinnell, Poweshiek County, Iowa, including Grinnell College, schools, businesses, churches, public safety organizations, social service agencies, and health care providers.

PILOT PROJECT RESULTS

The leadership team at GRMC participated in a pilot project to assess levels of stress within the members of the leadership team. Forty-seven members of the team completed a Personal and Organizational Quality Assessment (POQA-R) prior to par-

ticipating in the Transforming Stress workshop.

Members of the GRMC leadership team are senior-level staff, many of whom have been with the organization for more than 20 years, holding bachelor's degrees, master's degrees, and doctoral-level degrees. There are 31 females and 16 males between the ages of 31 and 60 years, and most are married.

On the POQA-R, participants are asked how often they experience emotions such as feeling resentful, sad, annoyed, depressed, blue, appreciative, or anxious. Members of the leadership team responded that they had often, very often, or always experienced fatigue, inadequate sleep, anxiety, and feeling resentful at least once during the previous month.

During the next month, the members of the leadership team participated in a Transforming Stress workshop and used the techniques they learned throughout their workday and practiced with the emWave heart rate variability (HRV) coherence technology to help them learn how to better self-regulate stress reactions by shifting into a more coherent physiological state. The techniques were based on the long-established connection between the mind, body, and spirit, recognizing that one's state of being affects the body's autonomic nervous system that controls our breathing and HRV. Through the use of these techniques, participants learn how to lessen the physiological effects of stress, helping them to increase inner harmony or personal coherence.

One month later, the leadership team again took the POQA-R. Worth noting are the improvements shown for all of the primary scales and most of the subscales. There was significant improvement in fatigue, anxiety and depression, anger and resentment, fatigue and health symptoms (Table, Figures 1 and 2). The POQA-R

TABLE Grinnell Regional Medical Center Personal and Organizational Quality Assessment—Revised 4 Scale
Paired Samples Statistics (N=22, 10 males and 12 females)

		Pre			Post			Paired Differences					
		Mean	SD	SEM	Mean	SD	SEM	Mean	SD	SEM	t	P<	ES
Primary	Organizational Stress	4.90	0.92	0.20	4.59	0.78	0.17	-0.31	0.63	0.13	-2.32	.05	.37
Subscale	Pressures of life	5.03	1.01	0.22	4.81	0.73	0.16	-0.22	0.78	0.17	-1.32	ns	.25
Subscale	Relational tension	4.79	1.48	0.32	4.77	1.40	0.30	-0.02	0.85	0.18	-0.08	ns	.01
Subscale	Stress	10.00	3.22	0.70	6.86	3.53	0.77	-3.14	3.89	0.85	-3.70	.01	.93
Primary	Emotional Vitality	4.64	0.76	0.16	5.06	0.72	0.15	0.42	0.78	0.17	2.52	.05	.57
Subscale	Emotional buoyancy	4.82	0.99	0.21	5.17	0.79	0.17	0.35	0.92	0.20	1.79	ns	.40
Subscale	Emotional contentment	4.40	0.79	0.17	4.91	0.79	0.17	0.51	0.90	0.19	2.66	.05	.64
Primary	Emotional Stress	2.91	0.82	0.18	2.21	0.50	0.11	-0.69	0.65	0.14	-5.02	.001	1.05
Subscale	Anxiety and depression	2.99	1.07	0.23	2.12	0.48	0.10	-0.87	0.87	0.19	-4.67	.001	1.12
Subscale	Anger and resentment	2.83	0.85	0.18	2.29	0.61	0.13	-0.54	0.59	0.13	-4.25	.001	.73
Primary	Physical Stress	3.51	1.07	0.23	2.65	0.78	0.17	-0.87	0.72	0.15	-5.64	.001	.94
Subscale	Fatigue	4.43	1.49	0.32	3.24	1.04	0.22	-1.19	1.19	0.25	-4.72	.001	.94
Subscale	Health symptoms	2.89	0.91	0.19	2.25	0.79	0.17	-0.64	0.57	0.12	-5.33	.001	.76
Scale	Intention to quit	2.32	1.71	0.36	2.34	1.83	0.39	0.02	1.13	0.24	0.09	ns	.01

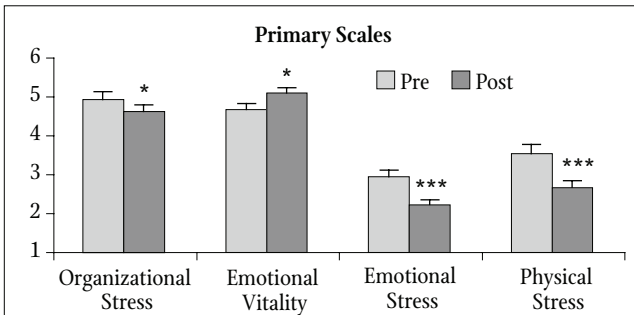


FIGURE 1 Pre-Post HeartMath Program Scores From the Personal and Organizational Assessment (POQA) for the Primary Scales.

* $P < .05$; ** $P < .01$, *** $P < .001$

also measured organizational qualities from the GRMC leadership team before and after the team implemented these techniques that also improved.

THE HEART OF GRINNELL PROJECT

In 2010, 85% of all staff members at GRMC have been trained in these same stress reduction techniques as a part of the GRMC “I Choose Health” employee wellness program that provides incentives for employees to get annual checkups and preventive tests such as mammograms, complete blood work, and fitness tests. Medical issues that are identified in early stages are easier and less expensive to treat. The focus is to encourage GRMC employees to live healthier lives through prevention.

GRMC has a self-insured health plan. This means that all covered employees and their family members either pay the bill with a copayment or deductible or GRMC pays the claims. When the number of health claims submitted is reduced, the cost of providing medical coverage to employees and their families is reduced. GRMC has been successful through this program in bending the cost curve for health care coverage. The medical cen-

ter has not experienced a substantial increase in health insurance premiums in 3 years. In 2009, GRMC saw a minimal insurance increase of 3%. The average annual health insurance premium for small businesses in Iowa more than doubled in 10 years, increasing 113% from 1999 to 2009.³

There are health conditions that are beyond one’s control. However, individuals can take personal responsibility to improve health through lifestyle decisions, preventive health care, building and maintaining social networks, and managing stress. What part does stress play in derailing personal wellness? GRMC’s philosophy is that community hospitals can be a catalyst for health improvement, leading by example. Leaders at the medical center believe that being truly committed to improving the health and well-being of the community must start within. Can a community hospital transform its stress, increasing the levels of personal and irrigational coherence to have a positive effect on systems within the larger community it serves?

The Heart of Grinnell project received a 2010 directed source award from the Centers for Disease Control and Prevention to provide GRMC with greater resources to begin work on this project. Systems within the larger community to be studied through The Heart of Grinnell include educational systems, health care organizations, public safety and social service organizations, the ministerial association, and systems that target special-needs populations. We believe that when the individual members of these systems begin to increase their personal level of coherence, the change will overlap into other systems, benefiting the entire community. This is a long-term longitudinal research project focusing on the effect of a stress intervention based on increasing coherence of an entire community with the following three primary objectives:

1. Improved health by
 - a) Reducing chronic disease
 - b) Improving adherence to positive wellness behaviors

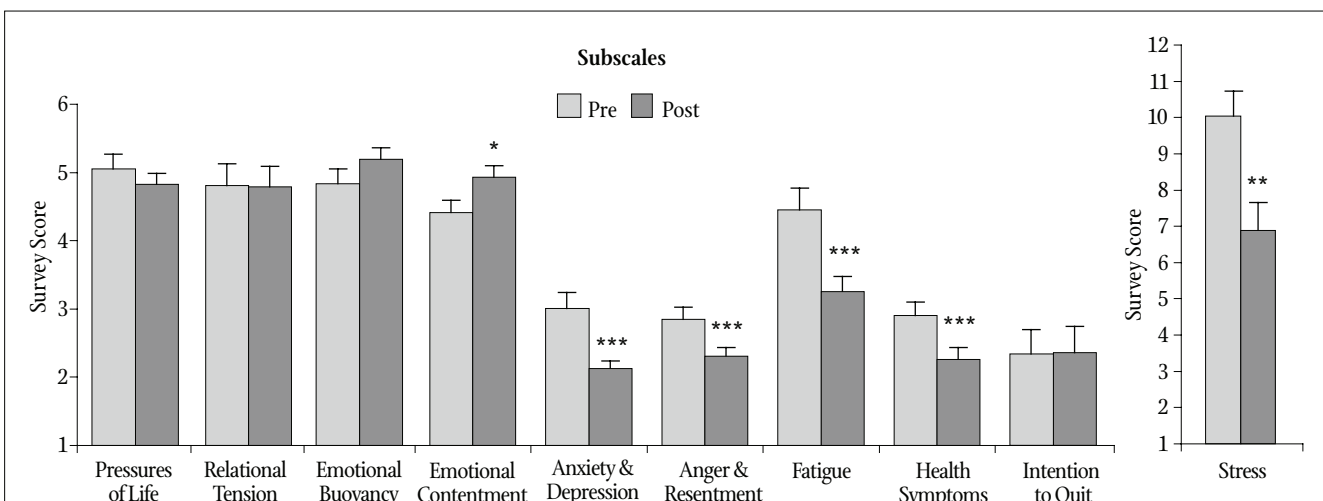


FIGURE 2 Pre-Post HeartMath Program Scores From the Personal and Organizational Assessment (POQA) for the Subscales.

* $P < .05$; ** $P < .01$, *** $P < .001$

- c) Improving physical biometrics
- 2. Improved productivity from
 - a) Reduced absenteeism, increased presenteeism
 - b) Improved workplace morale
- 3. Increased personal coherence and harmony will
 - a) Reduce conflict at work, schools, and at home
 - b) Foster a greater spirit of cooperation and compassion.

Health care providers cannot eliminate stress from people's lives, but they can help people deal with stress and its effects in a healthier way. It can be life-changing for people to learn that they can be in control of their reactions to stress when they are more in control of themselves and their emotions. When individuals are able to spend more time in a coherent state, they build up personal resilience to the stressors around them. A healthier, happier community is the goal of The Heart of Grinnell's vision of transforming stress through increased coherence and building ongoing resilience to life's challenges for an entire community.

REFERENCES

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