Session 4:

The HEART Program Evaluation: Partnering with National and Local Leaders to Improve Healthcare Worker Resilience

May 17, 2022

Complementary Integrative Health Evaluation Center (CIHEC)
Evaluation Team: Susan Stockdale, Stephanie L. Taylor, Briana Lott
Intervention Team: J. Greg Serpa, Caroline Prouvost (HEART co-developers)

Partners/Funding: VA Office of Patient Centered Care and Cultural Transformation (OPCC&CT) and VA QUERI (PEC 16-354)
Using Data & Information Systems in Partnered Research Cyberseminar Series

*Presentations from the field focusing on VA data use in quality improvement and operations-research partnerships.*

**Sessions cover...**

- Use of VA data and information systems in QUERI Projects and Partnered Evaluation Initiatives
- Operational data resources and QI-related data
- Challenges in using and managing multiple data sources
- VA resources to support data use
- Experiences working within operations/research partnerships
## UPCOMING PARTNERED RESEARCH SESSIONS

Third Tuesday of the month  |  12:00 - 1:00 PM ET

<table>
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<th>Date</th>
<th>Topic</th>
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<tr>
<td>6/21/22</td>
<td>QUERI Rapid Response Teams: Leveraging VA Partnerships for Rapid Data Collection and Analysis</td>
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Event number (access code): 199 009 5117
Event password: 3844
Registration ID: This event does not require an enrollment ID

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Toll-free dialing restrictions:
Access code: 199 009 5117

Please download today’s slides
Please click here for today’s live captions
Poll #1:

What is your primary **role in projects using VA data?**

- Investigator, PI, Co-I
- Statistician, methodologist, biostatistician
- Data manager, analyst, or programmer
- Project coordinator
- Other – please describe via the chat function
Poll #2:

How many years of experience working with VA data?

- None – I’m brand new to this!
- One year or less
- More than 1, less than 3 years
- At least 3, less than 7 years
- At least 7, less than 10 years
- 10 years or more
Session 4:

The HEART Program Evaluation: Partnering with National and Local Leaders to Improve Healthcare Worker Resilience

May 17, 2022
Issues to Address

• Leaders recognize that burnout is a pervasive issue that may be contributing to turnover.

• High turnover is costly, impacts patient care.

• Mindfulness-based resiliency is an evidence-based practice to help providers/staff cope with burnout.
Purpose of the HEART Project

• To design and evaluate an intervention aimed at improving:
  o skills to alleviate burnout (resiliency, stress management, and self-
    compassion).
  o burnout
  o workforce job satisfaction and intent to remain in VA

• Ensure that the intervention will be feasible to implement in a clinical setting with minimal disruption to clinic flow
  o Especially challenging with multiple and unpredictable COVID surges
Objectives of This Presentation

• Describe the HEART intervention that Dr. Greg Serpa and his colleagues designed and its modification in collaboration with operations partners

• Present evaluation design considerations and describe the process of working with clinic partners

• Share preliminary results and next steps
The (Virtual) HEART Intervention

- 7-week virtual program for providers and staff
- Teaches self-care and patient interaction skills including mindfulness, self-compassion, finding one’s purpose and holding human suffering
  - PACT clinicians and staff (MDs, MSAs, RNs, LPNs, SWs, PharmDs, etc)
  - 4 PC practices from 2 LA and Long Beach VAs
- Includes:
  - 6 weekly one-hour staff resilience and self-care trainings during clinic hours
  - 1 3-hour wellness retreat
  - Handouts and audio links to encourage home practice
  - Weekly wellness newsletters
HEART: Core Elements

- HEART was informed by my clinical work as a Mindfulness Based Stress Reduction (MBSR) and Mindful Self-Compassion (MSC) teacher as well as work as a Whole Health National Education Champion
  - Challenging provider shaming
  - Mindfulness
  - Self-Compassion
  - Whole Health: mapping your MAP
  - Healer’s Journey
  - Gratitude
Mindfulness In Healthcare Settings

- Meta-analysis of 41 studies of mindfulness-based courses consistently found small to medium effect sizes for burnout, stress and mindfulness (Lomas et al., 2019)
- Yet the VA CALM study (Serpa et al., in press) found large effect sizes on all measures
  - Likely distinct populations (mindfulness naïve vs practitioners with a daily practice)
  - Differences in duration and intensity of the intervention
  - “Dose makes a difference”
HEART Development and Pandemic Pivot

• 2017 Homeless Primary Care team requested an employee intervention to reduce staff attrition
  o Was well received by HPACT, but not rigorously evaluated
• In January 2020, launched a 15-hour version of HEART in primary care face-to-face in a multisite study… then COVID hit
• National and local partners encouraged development and testing of a less time-intensive intervention that could be delivered virtually
• Revised HEART into a 9-hour virtual training
  o Pros of virtual delivery: became feasible, easier to access, less clinic disruption
  o Cons of virtual delivery: harder to cultivate a healing space, distractions, distractions, distractions… and pandemic detailing
Leveraged existing relationships at 4 levels to seek interest and buy-in:

- VACO / OPCC&CT- Are you interested in our CIHEC QUERI evaluating this?
- Strong support from VISN 22 Medical Director for fostering well-being of frontline workers
- GLA and Long Beach Primary Care Leadership recognized the need, signaled buy-in to PC clinic leaders
- GLA and Long Beach Frontline leaders willing to work with us to incorporate into clinic workflow
Incorporating activities into PACT clinic workflow

• Met with frontline PC and nursing leaders to discuss options for intervention delivery
  o Randomization be feasible?
  o Randomize individuals vs. teamlets (n=4) vs. entire PACT (4-5 teamlets, n=16-20)? Which PACTs?
  o Did clinic have designated weekly meeting time for us to deliver sessions (NOT during lunch) or would they have to block clinic time (90-day lead-time)?

• Implementation tailored to each site, resulting in quasi-experimental “institutional cycle” design
  o For clinics with multiple large PACTs, randomized entire PACT
  o 1 site with severe understaffing contributed only 2 teamlets
Methods – Program Delivery and Evaluation Considerations: Achieving Validity

- Sample size goal: 100+ (50 intervention, 50 control)
- Internal validity – Did the HEART intervention achieve the desired outcomes?
- External validity – Can HEART’s effects be generalized to others?
- True experimental designs best for achieving internal and external validity
  - Not feasible to randomize individuals, too complicated to execute in clinic setting, risk unplanned exposure of control group
  - Concerns with ethics, fairness of only some receiving the intervention
  - HEART was designed to be delivered to teams, practiced within teams
Methods – Design Decision Was a Direct Result of Operation Partners’ Input/Needs

• Opted for quasi-experimental, recurrent institutional cycle (“patched-up) design
  o Group-level randomization of teams (when possible)
  o Pre- and post-assessments

• Combines longitudinal and cross-sectional approaches
  o Cross-sectional comparison between post- for group 1 and pre- for group 2
  o Longitudinal comparison of pre- vs post- for all groups

• Biggest risks to validity with this design – regression to the mean, interaction of selection and the treatment
### HEART Evaluation Design - cross-sectional comparison

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<tbody>
<tr>
<td>Group 1 - PACT</td>
<td>Pre-assessment</td>
<td>HEART</td>
<td>Post-assessment</td>
</tr>
<tr>
<td>Group 2 - HPACT</td>
<td>Pre-assessment</td>
<td>HEART</td>
<td>Post-assessment</td>
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<tbody>
<tr>
<td>Group 1 – PACT (2 sites)</td>
<td>Pre-assessment</td>
<td>HEART</td>
<td>Post-assessment</td>
</tr>
<tr>
<td>Group 2 - HPACT</td>
<td>Pre-assessment</td>
<td>HEART</td>
<td>Post-assessment</td>
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HEART Program Conceptual Model Informing Evaluation

- Key measures:
  - Freiburg Mindfulness Inventory, Brief-resilience scale, Neff’s Self-Compassion scale, Perceived Stress Scale-4, AES questions on job satisfaction and turnover, abbreviated Maslach Burnout Inventory

- Post assessment survey open ended items asking:
  - “How have you benefited from the program?”
  - “How can we improve the program?”
Methods - Quantitative Analyses

• Longitudinal analysis: pre vs post for 2 cohorts combined
  o Group t-tests (scales), cross-tabulation with chi-square (ordinally measured items)

• Cross-sectional analysis: Cohort 2 pre-test serves as control group, compare against post-test for Cohort 1
  o Regression (OLS for indexes, logistic for dichotomous outcomes) with predictors for intervention and attendance

• Preliminary analysis: unadjusted results
### Results – Baseline Sample Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Cohort 1 (n=45)</th>
<th>Cohort 2 (n=50)</th>
<th>Total (n=95)</th>
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<tbody>
<tr>
<td>Female</td>
<td>71%</td>
<td>82%</td>
<td>77%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>33%</td>
<td>27%</td>
<td>29%</td>
</tr>
<tr>
<td>Age less than 35 years</td>
<td>48%</td>
<td>20%</td>
<td>33%</td>
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<tr>
<td>Job title (32 in Cohort 1 and 36 in Cohort 2 answered)</td>
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<tr>
<td>PCP (all NPs)</td>
<td>13%</td>
<td>14%</td>
<td>13%</td>
</tr>
<tr>
<td>RN/RNCM</td>
<td>16%</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>LVN</td>
<td>19%</td>
<td>19%</td>
<td>19%</td>
</tr>
<tr>
<td>Clerk</td>
<td>13%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Other</td>
<td>41%</td>
<td>36%</td>
<td>37%</td>
</tr>
<tr>
<td>Full-time</td>
<td>98%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>VA tenure less than 3 years</td>
<td>53%</td>
<td>36%</td>
<td>43%</td>
</tr>
<tr>
<td>Engage in regular mindfulness practice</td>
<td>18%</td>
<td>22%</td>
<td>20%</td>
</tr>
<tr>
<td>“Some/a lot” of previous formal training in mindfulness</td>
<td>64%</td>
<td>61%</td>
<td>63%</td>
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### RESULTS – HEART ATTENDANCE

<table>
<thead>
<tr>
<th># Sessions</th>
<th>Cohort 1 % Attending n=56</th>
<th>Cohort 2 % Attending n=75</th>
<th>Total n=131</th>
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<tbody>
<tr>
<td>0</td>
<td>20%</td>
<td>31%</td>
<td>26%</td>
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<td>16%</td>
<td>3%</td>
<td>8%</td>
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<td>2</td>
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<td>11%</td>
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<td>15%</td>
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<td>6</td>
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<td>21%</td>
<td>20%</td>
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<tr>
<td>7</td>
<td>14%</td>
<td>5%</td>
<td>9%</td>
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- Many invited completed baseline survey
- 26% did not attend any sessions
- 42% attended 5 or more sessions
“I do believe this will make a change in my personal life for the better. To be fully honest, I can try to put some of this into play with work but at times, it's too hectic/short staffed to take a min out of the day and use the techniques provided.”

“It reminded me of what others are going through, being mindful of what I am going through, and that self-appreciation is a very important aspect and how you will also affect those around you.”

“Self-compassion session was incredibly enlightening and helpful. I plan to incorporate that during challenging times, and also do mindfulness meditation regularly”
“This program helped me deal with some levels of burnout I wasn't fully aware that I had, and has helped me be more compassionate to myself as well as my patients. I have found that I am better able to listen to veterans and be open to their feelings. This makes sessions with patients more rewarding for both of us.”

“This program is giving me the tools necessary to deal which very stressful situations such as my job, living in a major city and a pandemic world. I have benefited mostly from this program, by just getting the recognition that I deserve as a frontline worker helped me.”

“I think this program teaches skills and encourages reflection in a very healthy way. My only concern is that I hope it won't be a "one and done" program where ‘now primary care is fixed forever’ is the attitude.”
Results – Longitudinal Comparison (intervention vs control)

- Both cohorts combined: N = 94 for pre-assessment, 62 for post-assessment
- Trends were in the right direction, but not statistically significant
  - Resiliency (higher is better: $\beta = .04$)
  - Perceived stress (lower is better: $\beta = -.39$)
  - High Emotional exhaustion (lower is better: odds ratio = .75)
  - Single item personal accomplishment from AES (lower is better: intervention = 18.5%, control = 26.0%)
  - Job satisfaction (satisfied/very satisfied: Odds ratio = 1.39)
  - Organizational satisfaction (satisfied/very satisfied: Odds ratio = 1.14)
Results – Cross-sectional Comparison (pre vs post)

- N = 28 for intervention-group, 49 for control-group
- Trending in right direction (intervention effectiveness), but NS
  - Resilience (higher is better: intervention mean = 3.03, control mean = 2.95)
  - Perceived stress (lower is better: intervention mean = 9.9, control mean = 10.8)
  - High emotional exhaustion (intervention = 17%, control = 22%)
  - Single item personal accomplishment from AES (lower is better: intervention = 18.5%, control = 26.0%)
  - Satisfied with job (intervention = 82.7%, control = 72.3%)
  - Satisfied w organization (intervention = 65.5%, control = 63.8%)
Summary

• Main outcomes = NS

• Possible explanations:
  o Not enough power to detect small effects due to sample size
  o Omicron surge Dec 2021 – March 2022
  o Both cohorts had high previous exposure to meditation/mindfulness (60-64% at baseline reported at least some)
  o Self-selection based on interest, experience with mindfulness
Hopeful Next Steps

• More analyses
  o Examine whether “dose” (number of HEART sessions attended) makes a difference
  o Adjust for individual characteristics, pre-intervention experiences with meditation/mindfulness
  o Subgroup analyses (if n permits, for example, comparing PCPs to nurses)
  o Check external validity – possible interaction of selection and treatment (people with higher attendance may have been more receptive and/or had more previous exposure)

• If found effective, in FY23-24 we (CIHEC QUERI PEI) might use and evaluate a train the trainer format (10 VAMCs)

Stay Tuned!
The evaluation was conducted by a team in our Complementary and Integrative Health Evaluation Center, a QUERI PEI (16-354)

**Additional HEART Team Members:** Eric Apaydin PhD (Analyst), Briana Lott MPH (Coordinator)

**Operational Partners:**
VA Office of Patient Centered Care and Cultural Transformation
CONTACT INFORMATION

For questions on the evaluation, Susan.Stockdale@va.gov

For questions on the HEART intervention, John.Serpa@va.gov

For questions on the Complementary and Integrative Health Evaluation Center (CIHEC) QUERI PEI, Stephanie.Taylor8@va.gov
THANK YOU!

Questions?
Using Data & Information Systems in Partnered Research Cyberseminar Series

Next session:

at 1 pm Eastern

QUERI Rapid Response Teams: Leveraging VA Partnerships for Rapid Data Collection and Analysis
Partnered Research

BONUS SLIDES
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<td>Health Economics Resource Center (HERC)</td>
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Questions about using VA Data?

HSRData Listserv
- Community knowledge sharing
- ~1,400 VA data users
- Researchers, operations, data stewards, managers
- Subscribe by visiting https://vaww.virec.research.va.gov/Support/HSRData-L.htm (VA Intranet)

VIReC HelpDesk
- Individualized support
  virec@va.gov