



## Recognition



Mary E. Lough

### **Blurb:**

Congratulations to Stanford Health Care's Nurse Scientist from the Office of Research: Mary E. Lough PhD, RN, CCNS, FCCM, FAHA, FCNS, FAAN.

On October 26, 2019, Mary was inducted as a Fellow of the American Academy of Nursing (FAAN) in Washington, D.C.

### **Web Article:**

**We'd like to take this opportunity to Recognize our own Nurse Scientist, Mary E. Lough.**

Congratulations to Mary! On October 26, 2019, Mary E. Lough PhD, RN, CCNS, FCCM, FAHA, FCNS, FAAN was inducted as a Fellow of the American Academy of Nursing (FAAN) in Washington, D.C. We asked Dr. Lough what it means to be a Fellow with the Academy.

**Q: Tell us about what went into earning this prestigious honor?**

A: Each applicant is nominated by two current American Academy of Nursing (AAN) Fellows in good standing who are familiar with the nominee's work and professional contributions. The contributions are generally outside the nominee's employed role as a clinician, educator, or researcher. The two fellows write a detailed description of the significance and importance of the nominee's impact on patients and nurses on a national and international scale. In my case, the nomination detailed my contribution as a Clinical Nurse Specialist (CNS).

I have been co-editor of a series of critical care text books: *Critical Care Nursing: Diagnosis and Management* and *Priorities in Critical Care* for over 25 years. Both text books are now in their eighth editions and most recently published in 2018. These books are used widely in critical care in the English-speaking world (USA, Canada, UK, Ireland, Australia), and have also been translated into French, Portuguese, and Spanish. The Spanish-language and Portuguese-language versions are extensively used in South America; the French-language version is used primarily in Quebec, Canada. Because hundreds of thousands of nurses have used these books in their nursing undergraduate and graduate programs, and on critical care units, the textbooks have had a huge international impact on critical care nursing education.

In addition, I edited a specialty book on *Hemodynamic Monitoring* (published in 2016), now cited as the [authoritative nursing text](#) on this topic by the American Association of Critical Care Nurses (AACN). I also served as Chair of the Research and Scholarship Committee for the nursing section of the Society of Critical Care Medicine (SCCM) and I contribute as a grant reviewer and journal reviewer for AACN, SCCM, the National Association of Clinical Nurse Specialists (NACNS), and the American Heart Association (AHA). All of my professional contributions represent my passion for nursing in action. I enjoy writing and I enjoy being involved with professional organizations. It is great to meet nurses from across the globe and to learn about their practice and research. To be inducted as a FAAN for something I enjoy doing is icing on the cake!

**Q: What does it mean to be a Fellow with the American Academy of Nursing?**

A: I don't think most nurses who are inducted as a Fellow in the American Academy of Nursing (FAAN) expect this to happen to them, and I certainly was surprised and grateful to be so honored. Once inducted as a FAAN, the fellow is expected to help with the mission of the American Academy of Nursing (AAN) and to work to improve the American Health Care system. The following is taken from the AAN website:

*“The American Academy of Nursing’s approximately 2,400 fellows are nursing leaders in education, management, practice and research. Fellows represent association executives; university presidents, chancellors and deans; elected officials; state and federal political appointees; hospital chief executives and vice presidents for nursing; nurse consultants; and researchers and entrepreneurs.*

*Invitation to fellowship is more than recognition of one’s accomplishments within the nursing profession. Academy fellows also have a responsibility to contribute their time and energies to the Academy, and to engage with other health leaders outside the Academy in transforming America’s health system by*

- *Enhancing the quality of health and nursing;*
- *Promoting healthy aging and human development across the life continuum;*
- *Reducing health disparities and inequalities;*
- *Shaping healthy behaviors and environments;*
- *Integrating mental and physical health; and*
- *Strengthening the nursing and health delivery system, nationally, and internationally”.*

Reference: <https://www.aannet.org/about/fellows>

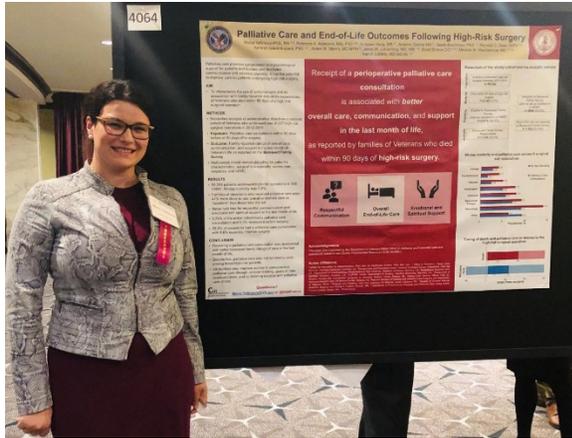
As a new FAAN, I am looking forward to learning more about the work of the American Academy of Nursing and to contributing positively to their mission as a Fellow.



Article By: Sana Younus & Mary E. Lough

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**Research**



### **Blurb:**

Maria Yefimova, PhD, RN, a Nurse Scientist from the Office of Research, presented her research entitled “Palliative Care and End of Life Outcomes Following High Risk Surgery” at the Association of VA Surgeons in April 2019. Maria was the only nurse scientist on a multidisciplinary team who conducted this research.

### **Web Article:**

## **Palliative Care and End of Life Outcomes Following High Risk Surgery**

Maria Yefimova, PhD, RN, a Nurse Scientist from Stanford Health Care and Palo Alto VA Hospital, recently led a diverse team consisting of palliative care clinicians, surgeons, health services researchers, and biostatisticians to study palliative care and end-of-life outcomes following high risk surgery. As the human body ages, the risks associated with surgical procedures tend to increase. Maria and her team performed a retrospective study on a cohort of veterans who died within 90 days of a high-risk surgical procedure to characterize perioperative palliative care and its influence on family reported end-of-life outcomes. This was an opportunity to utilize big data to answer a clinical question, does perioperative palliative care help families, and generate new knowledge for the medical world.

### **Background:**

As a prospective study, answering this clinical question could take years. Instead Maria and her team opted for a retrospective study and obtained access to a dataset of administrative data from a national cohort of veterans who underwent a high-risk surgical operation between 2012-2015, which equated to n=95,204 veterans. By utilizing the available data, the team was able to determine significant key components related to the clinical question from the records. The data was organized to control for certain covariates, such as age, gender, and race/ethnicity, which all have been shown in previous research to vary surgical outcomes. The data was further refined to include only patients who had died within 90 days of the high-risk

surgery, and whose family members completed the bereaved family survey (n=1,124). Finally, the team identified which patients were provided a palliative care consultation either 30-days perioperatively or 90-days postoperatively.

The overall results yielded that patients and families who received palliative care consultation were more likely to rate end-of-life care as “excellent” than those who did not. Additionally, out of the 95,204 veterans who underwent high-risk operations, only 3.75% received palliative care consultation, and it varied by subspecialty. Their research has been presented at the Association of VA Surgeons (AVAS) conference in April 2019. An abstract for the study from their presentation at the AVAS conference can be found below.

**Abstract:**

**Background:** Palliative care has potential to improve the support for patients and families undergoing high risk surgery, yet few surgical patients utilize it.

**Objectives:** To characterize perioperative palliative care and its influence on family reported end-of-life outcomes among veterans who died within 90-days of a high-risk surgical operation.

**Methods:** This is retrospective cross-sectional cohort study of veterans who underwent one of 227 high-risk operations between 2012 and 2015. We examined the effect of palliative care consultation (PCC) 30-days before or 90-days after surgery on family-reported ratings of end-of-life care. VA surveys all families of inpatient decedents using the validated Bereaved Family Survey. We used a single item for overall end-of-life care, and composite scores for communication and support.

**Results:** 95,204 Veterans underwent high risk operations in 129 inpatient VA medical centers.

90-day mortality was 6.0% but varied by surgical sub-specialty. In the entire cohort, 3.5% had a PCC, and 0.8% received one before surgery. Among the 5,740 Veterans who died within 90 days, 28.4% had any PCC with 5.6% receiving it before surgery. Families of decedents who received PCC were 47% more likely to rate overall end-of-life care as “excellent” (OR=1.47; 95% CI=1.14-1.88, P=0.007) than those who did not. Similarly, families of decedents who received PCC were more likely than their counterparts to rate end-of-life communication (OR=1.43, 95% CI=1.09-1.87, p=0.004) and support (OR = 1.31, 95% CI=1.01-1.71, p=0.05) as “excellent”.

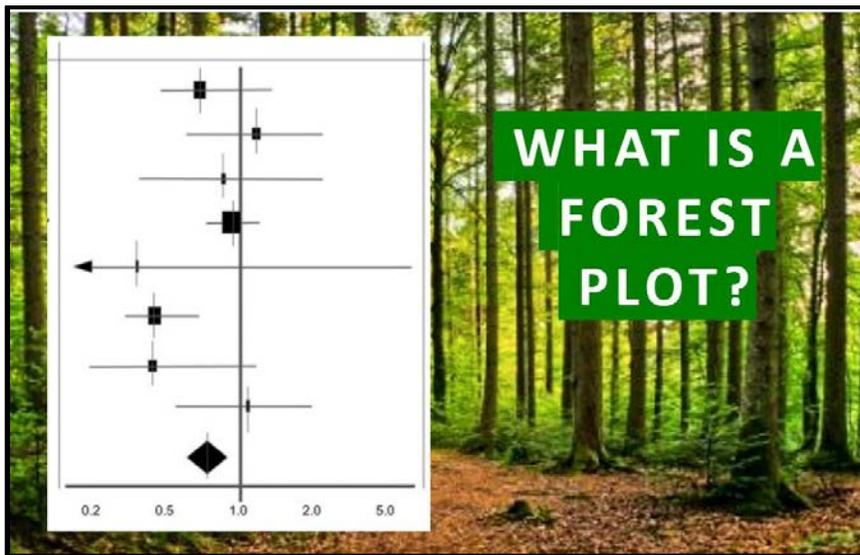
**Conclusion:** A cohort of patients undergoing high-risk surgical operations had substantial postoperative mortality, yet only one-quarter of those who died within 90 days of the procedure used palliative care. Palliative consultations were associated with better end-of-life ratings by the family of the decedent.

**Implications:** The findings support the need for clinical practices that integrate palliative services in the perioperative period.

Article By: Maria Yefimova & Monique Bouvier

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## **Education**



**Blurb:** A Forest Plot is the name of a statistical information display created as part of a systematic review with meta-analysis of the literature. Interestingly, no one is sure why this statistical output is called a Forest Plot. Some think it is because the output resembles a tree. This article provides information about how to interpret a Forest Plot.

### **Web Article:**

#### **What is a Forest Plot? – What is it used for? – How do you read it?**

This article describes the purpose of including a Forest Plot in a systematic review and meta-analysis. It lists the principal elements of a Forest Plot and describes how to interpret the results using an example of a continuous variable and an example of a binary (dichotomous) variable.

**Forest Plot:** A Forest Plot (See Figure 1 below) is the name of a specific statistical information display created as part of a systematic review of the literature. The Forest Plot presents a quantitative summary of the results of multiple studies on a specific topic. The advantage of a systematic review with a Forest Plot is that many small-sized studies are combined to provide a larger sample size and answer clinical questions with greater power (power = more chance of finding a statistical result if one exists).

The following provides specific examples to guide the reader in use of a systematic review that includes a meta-analysis and forest plot.

**Systematic Review:** The following are examples of a systematic review of the literature that focus on specific topics such as “phlebitis and duration of a peripheral intravenous (IV) line” or “alcohol wipes versus alcohol barrier caps to prevent catheter associated central-line infection (CLABSI)”. The systematic review preferentially includes research studies that contributes data from randomized controlled trials (RCT) because randomization makes the groups more equitable and findings more generalizable. However, a systematic review may also include data from quasi-experimental studies where there were multiple groups, but randomization was not used to create the groups.

**Study Inclusion Criteria:** In the systematic review, the authors initially present the background and describe the criteria that were used to select the studies that will be combined into the Forest Plot. The data from the studies (sample size, characteristics, results) are entered in a specialized statistical program to combine the information for comparison.

**Meta-analysis:** Meta-analysis is the statistical method used to analyze the individual study data and create a Forest Plot.

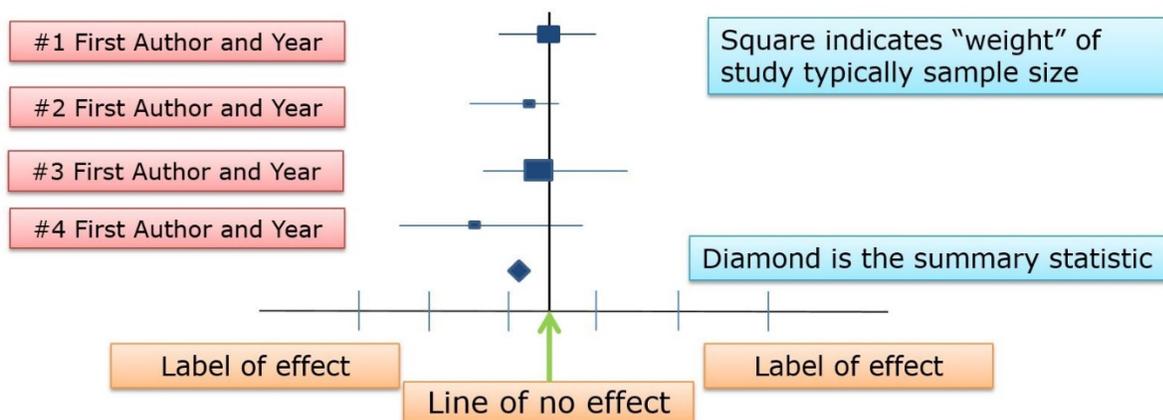


Figure 1: Schematic of a Forest Plot showing a list of studies; the vertical line of “no effect”; label of effect for each side of the Forest Plot: squares and confidence interval lines (Box and Whiskers); and a diamond summary statistic.

The Forest Plot has a middle-vertical line is described as the “line of no effect” that divides the result into two sections (favors the intervention or test) or (does not support the intervention or test). In Figure 1, this vertical line is listed as the “label of no effect”.

**Individual Studies:** Each individual study is listed on the left side, with the authors’ names and year of publication (Figure 1). Moving to the middle of the Forest Plot, each study is represented by a black square with a horizontal line through the square. The squares are different sizes, related to the sample size in the study. The bigger squares have more “weight”, which means the data is more meaningful due to a larger sample size with smaller confidence interval. The squares are positioned in the mid-section of the horizontal line as these lines represent the confidence intervals of the study result. If the horizontal line crosses the middle upright line, this means the result is not statistically significant.

- **Diamond Summary Statistic:** At the bottom of the panel there will be a diamond that graphically represents a summary statistic for all the included studies.
- **Line of No Effect:** The middle vertical line is labeled at the base as either 1 or 0.

1 indicates a binary (dichotomous) variable / result – “yes or no”, “positive or negative”

0 indicates a continuous variable / result – blood pressure, heart rate, height, hours, or similar

**How to Interpret the Forest Plot for a Binary Result (Figure 2):** When 1 is at shown at the base of the middle line, indicating a binary result, everything to the negative side is below 1 and everything to the positive side is above 1.

- **A non-significant result:** A non-significant result would be a CI of -0.98 -to- 1.12. Because the confidence interval includes 1, this result IS NOT significant (see Figure 2).
- **A significant result:** A significant result would be a CI of 1.12 -to- 2.57. Because the confidence interval does not include 1, this result IS significant

**How to Interpret the Forest Plot for a Continuous Result:** When 0 is in the middle this indicates a continuous result. Everything to the negative side is below 0. Everything to the positive side is above 0. A confidence interval (CI) and a *p* value are listed on the right side.

- **A non-significant result:** A non-significant result would be a CI of -0.42 -to- 1.68. Because the confidence interval includes 0, this result IS NOT significant (see Figure 2).
- **A significant result:** A significant result would be a CI of 1.68 -to- 2.95. Because the confidence interval does not include 0, this result IS significant (see Figure 2).

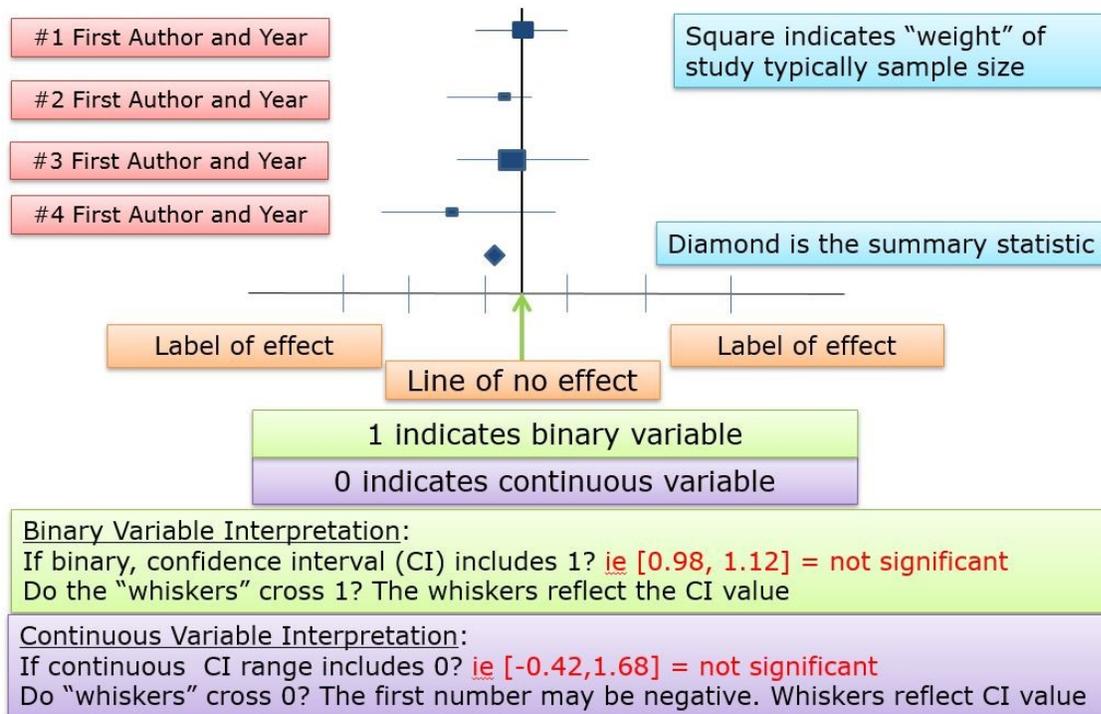


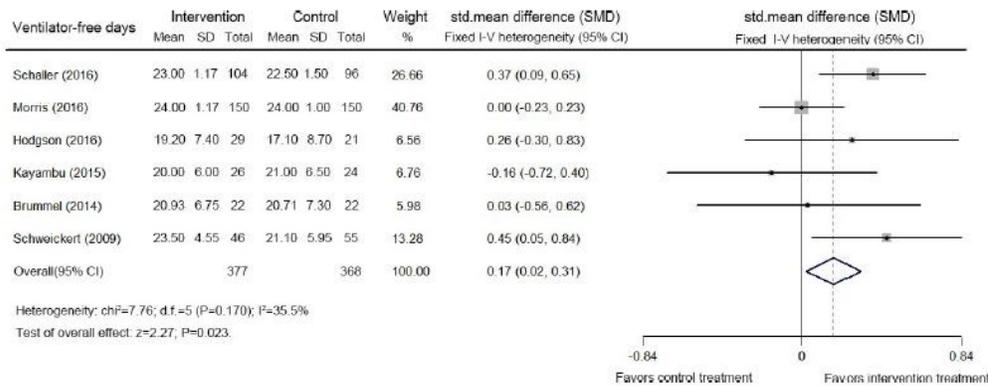
Figure 2: Schematic Elements of a Forest Plot

**Published Example of a Forest Plot:** Figure 3 is a Forest Plot from a recently published meta-analysis on the impact of early mobility in the ICU. The Forest Plot compares the number of ventilator-free days for patients who received early mobility in the ICU (intervention treatment label), compared with no early mobility (control treatment label).

**Sample Size and Weight:** In Figure 3, three of the six studies (50%) were extremely small with sample sizes under 25. The meta-analysis pools the findings from all these studies to give more power. Studies with larger sample sizes have greater weight in the analysis.

**Interpreting the Result:** In Figure 3 the mid-line number is 0, indicating measurement is a continuous variable, in this example the researchers are measuring the number of days the patient is not on the ventilator shortened to "ventilator-free days".

**Diamond Statistic and Final Result:** In Figure 3 below, the Confidence Interval is 0.02-to-0.31 which does not include zero (it is above zero) so this result **is** statistically significant. This is reflected in the position of the diamond which is to the right of the vertical line and does not cross it.



**Fig 3. Forest plot of the eligible studies that reported the number of ventilator-free days.**

<https://doi.org/10.1371/journal.pone.0223185.g003>

Figure 3: Forest Plot from Zhang et al. (2019) Early mobilization of critically ill patients in the ICU – A systematic review and meta-analysis. *PLoS ONE* 14(10):e0223185. Open Access.

<https://doi.org/10.1371/journal.pone.0223185>

**Summary:** This published Forest Plot (Figure 3) contains all the elements found in the schematic examples (Figures 1 and 2). Comparing the published and schematic versions will enhance knowledge of how a Forest Plot is presented in the literature.

This article presented a brief overview of a complex subject. To gain further insights it may be helpful to review some of the resources listed below. The two U-tube videos below are a great place to start.

Please contact Mary E. Lough PhD, RN if you have questions on this topic: [mlough@stanfordhealthcare.org](mailto:mlough@stanfordhealthcare.org)

#### ADDITIONAL RESOURCES

1. T. Shaneyfelt How to Interpret a Forest Plot – Utube video

<https://www.bing.com/videos/search?q=how+to+interpret+a+forest+plot&docid=608030513596008868&mid=82BA9DB52C6313B6C5C182BA9DB52C6313B6C5C1&view=detail&FORM=VIREHT>

2. Clinical Information Services: Utube video:

<https://www.bing.com/videos/search?q=how+to+interpret+a+forest+plot&docid=608007866222838834&mid=CD70CF4412BC59B556BCCD70CF4412BC59B556BC&view=detail&FORM=VIREHT>

Article By: Mary E. Lough

## **Spotlight**



### **Blurb:**

#### **Healthcare Con 2020**

#### **Reserve your spot for the 3rd Annual Research and Education Conference!**

Healthcare Con is an interdisciplinary conference developed to showcase the latest in education, leadership, research, innovation, quality and evidence-based healthcare improvement projects. The event will feature a wide-range of exciting lectures, discussions, poster presentations, networking opportunities, and educational session aimed to teach and inspire healthcare professionals of all career stages. Reserve your spot today while the early-bird rate is available!

### **Web Article:**

#### **Healthcare Con 2020: Register Today for the 3rd Annual Event!**

Stanford Health Care and Stanford Children's Health are pleased to announce the 3rd annual Healthcare Con event! Held in collaboration with 12 regional hospitals of Bay Area Magnet Convening (BAMC), Healthcare Con is an excellent opportunity to discover the aspiring research and education conducted at other institutions that aim to improve healthcare for all. This year the event will be held over 3 days at Stanford and includes a Pre-Conference Workshop on Cultivating Moral Resilience. Early-bird registration and the Call for Abstracts **are now open!** Secure your spot at the conference today and join in on the opportunity to connect with Bay Area regional hospitals.

Healthcare Con is an interdisciplinary conference developed to showcase the latest in education, leadership, research, innovation, quality and evidence-based healthcare improvement projects. The event will feature a wide-range of exciting lectures, discussions, poster presentations, networking opportunities, and educational session aimed to teach and inspire healthcare professionals of all career stages.

**HEALTHCARE CON 2020 WEBSITE:** <https://orpcs.org/healthcarecon/>

Follow us on Facebook! <https://www.facebook.com/HCC2019>

**Pre-Conference: June 3, 2020**

LPCH Auditorium, Room 1800

725 Welch Rd, Palo Alto, CA 94304

Lucile Packard Children's Hospital

**2-Day Healthcare Con: June 4-5, 2020**

Frances C. Arrillaga Alumni Center

326 Galvez St. Stanford, CA 94305

**Registration:**

Pre-Conference Workshop

\$100 Ticket + Service Fee

2-Day Healthcare Con

\$199 Student/Volunteer Registration + Service Fee

\$299 Early-Bird Registration + Service Fee

\$350 General Registration + Service Fee

**Keynote Speakers**

**CYNDA H. RUSHTON, PHD, RN, FAAN** recognized as an international leader in nursing ethics, is the Anne and George L. Bunting Professor of Clinical Ethics in the Johns Hopkins Berman Institute of Bioethics and the School of Nursing. Her current scholarship focuses on moral suffering of clinicians, moral resilience, palliative care, and designing a culture of ethical practice. She is author and editor of *Moral Resilience: Transforming Moral Suffering in Healthcare* (Oxford University Press), that aims to transform approaches to moral suffering with innovative methods of cultivating moral resilience.

**MARY JO KREITZER, PhD, RN, FAAN** is the founder and director of the Earl E. Bakken Center for Spirituality & Healing at the University of Minnesota where she also serves as a tenured professor in the School of Nursing. Within the School of Nursing, Dr. Kreitzer is the co-lead of the doctorate of nursing practice (DNP) program in integrative health and healing. Dr. Kreitzer has authored over 150 publications and is the co-editor of the text *Integrative Nursing 2<sup>nd</sup> Edition* published in 2018 by Oxford University Press. She earned her doctoral degree in public health focused on health services research, policy and administration, and her master's and bachelor's degrees in nursing.

**TRISH ANEN, RN, MBA, NEA-BC** is a Principal and the APP Workforce Practice Leader at SullivanCotter. Trish was previously with the Illinois Health and Hospital Association, where she was VP of Advisory Services. She co-founded The Center for Advancing Provider Practices during her time as the Chief Clinical Officer at

Metropolitan Chicago Healthcare Council. With over 30 years of clinical, executive and consulting experience, Trish has a deep understanding of the evolving health care marketplace and helps organizations implement enhanced models of care and optimize care team performance.

### **Pre-Conference Workshop**

Healthcare Con 2020 is excited to present an interactive Pre-Conference workshop on **Cultivating Moral Resilience and Ethical Practice at the Frontlines** held Wednesday June 3<sup>rd</sup>, 2020 presented by Dr. Cynda Rushton!

Dr. Rushton is recognized as an international leader in nursing ethics and a founding member of the Berman Institute, co-leading the first National Nursing Ethics Summit, convened by the Berman Institute and School of Nursing. The 2014 Summit produced a Blueprint for 21st Century Nursing Ethics. In 2016, she co-lead a national collaborative State of the Science Initiative: Transforming Moral Distress into Moral Resilience in Nursing and co-chaired the American Nurses Association professional issues panel that created A Call to Action: Exploring Moral Resilience Toward a Culture of Ethical Practice.

### **Hear more about the experience from last year's attendees:**

- *"The Conference is very empowering and inspiring. I'm honored to be part of it."*
- *"Inspiring to submit poster for next year! Great repository of ideas to take back."*
- *"Hungry for more! Great presentation of valuable, pertinent information!"*
- *"Very satisfied with the breadth of topics. I feel that I have a finger on the pulse of changes coming in health care. Appreciate the nursing focus."*
- *"I am a nursing student who attended the event. I enjoyed learning and networking with amazing healthcare leaders!"*
- *"GREAT OUTCOME! Keep it up! Looking forward for GREAT SPEAKERS."*
- *"Inspiration 2 days. I feel rejuvenated as a professional nurse."*
- *"Very fun event! Food was great! Attitude was enthusiastic! Speakers were full of energy and knowledgeable of material!"*
- *"The AI presentations were fantastic, I haven't heard this spoken about at other conferences!"*
- *"Absolutely action packed and full of important learnings to share with my organization."*
- *"Very informative conference, learned lots of practical ideas for evidence-based practice."*
- *"I really thought each speaker did a great job. I learned new things about innovation... how advanced technology is... it motivated me to possibly go back and get more certification."*
- *"Fabulous conference!! Fast paced but we were able to get so much content!!"*
- *"Very excited about information shared. Conference is very nice with all amenities included during the day. Great value"*
- *"The two main speakers were very inspirational and empowering. Favorite presentations!"*
- *"As a new CNL, I feel inspired, motivated, and armed to go back to my staff and encourage, support, and educate them on the value and necessity of implementing EBP into our practice."*

Article By: Sana Younus