8th Annual Lean Healthcare Research Symposium

CLEAR

Center for Lean Engagement & Research in Healthcare

Devoted to a mission of conducting timely, relevant, and actionable research on Lean in healthcare.

9-4 pm PT | March 21, 2024

The Omni La Costa Resort & Spa

2100 Costa Del Mar Road, Carlsbad, California

9:00-9:15	**Welcome** *Dorothy Hung, Ph.D., M.A., M.P.H. (Director, Center for Lean Engagement and Research, UC Berkeley)*
9:15-10:00	**Lean in Healthcare is Good: So Should We Double Down or Cut?** *Ken Snyder, M.B.A. (Executive Director, Shingo Institute, Huntsman School of Business, Utah State University)*
10:00-10:45	**Shifting Our Mindset From Scarcity to Abundance** *Marnee Iseman, M.H.A. (Partner, Moss Adams)*
10:45-11:30	**Unveiling the Impact of Lean Leadership on Continuous Improvement Maturity: A Scoping Review** *Oskar Roemeling, Ph.D., Ms.C. (Asst. Professor, Dept. of Innovation Management & Strategy, University of Groningen, the Netherlands)*
11:30-12:00	**Breakout Sessions**
12:00-1:00	**Lunch (catered)**
1:00-1:45	**Critical Success Factors for Kaizen Events in Hospitals** *Kimberly Harry, Ph.D., M.S. (Asst. Professor, Dept. of Systems Science & Industrial Engineering, State University of New York – SUNY Binghamton)*
1:45-2:45	**Advancing Equity: Lean Leader Practices, Behaviors, and a Path Forward** *Stephen Shortell, Ph.D., M.B.A., M.P.H. (Professor Emeritus of Health Policy & Management, CLEAR Co-Founder)* *Thomas Rundall, Ph.D. (Professor Emeritus of Health Policy & Management, CLEAR Co-Founder)* *Lillian Levy (CLEAR Associate, Public Health major, UC Berkeley)* *Athena Zhong (CLEAR Associate, Molecular & Cell Biology major, UC Berkeley)* *Elina Reponen, M.D., Ph.D. (Head Physician, CLEAR Scholar, HUS Helsinki University Hospital, Finland)*
2:45-3:30	**Thought Leadership on Artificial Intelligence (AI) in Lean Healthcare: Bending the Access and Cost Curves** *Niloy Sanyal, M.B.A. (Chief Marketing Officer, LeanTaaS)*
3:30-4:00	**Breakout Sessions**

For general inquiries or interest in the Lean Action Research Learning Collaborative (LARLC), email CLEAR@berkeley.edu

Dorothy Y. Hung, Ph.D.
Director, CLEAR

Welcome to CLEAR! I am pleased to present our 8th Annual Lean Healthcare Research Symposium to be held on March 21, 2024 in Carlsbad, California with livestreaming of the event. The Symposium will be hosted by Catalysis and Lean Enterprise Institute (LEI) following the Annual Summit as part of the LEI Healthcare track.

This year we welcome our Keynote Speaker, Ken Snyder, who is Executive Director of the Shingo Institute based in the Huntsman School of Business at Utah State University. Ken will address current fiscal challenges in healthcare, including decisions of whether to place long-term investments in continuous improvement on hold for more immediate financial relief. Adding a critical perspective to this, Marnee Iseman, Partner and lead of the Lean Practice at Moss Adams, will share case studies demonstrating the power of an abundance vs. scarcity mentality and what this can achieve tangibly in healthcare.

The ability to create amid pressures to cut must be navigated by leaders who operate within the context and culture of their organizations. Presenting on the topic of lean leadership and continuous improvement culture, Dr. Oskar Roemeling, Assistant Professor in the Department of Innovation Management & Strategy at the University of Groningen in the Netherlands, will share a systematic review of leader activities and improvement culture maturity among healthcare organizations in 9 countries. A key indicator of a mature lean culture is organizational investment in kaizen and process improvement. Speaking on this topic, Dr. Kimberly Harry, Assistant Professor in the Dept. of Systems Science & Industrial Engineering at the State University of New York (SUNY) Binghamton, will also share results from her comprehensive review of success factors for kaizen events in hospitals.

We conclude our Symposium with two topics that position our lean community toward the future. New CLEAR research will be presented on lean leader practices that advance health equity and workforce diversity in patient care. This work is the result of a collaboration with leading health systems that are members of our Lean Action Research Learning Collaborative (LARLC). Findings will be shared by a panel featuring Dr. Stephen Shortell and Dr. Thomas Rundall, Professors Emeriti and Co-Founders of CLEAR; Lillian Levy and Athena Zhong, University of California Berkeley Student Associates at CLEAR, and Dr. Elina Reponen, Head Physician and CLEAR Scholar at the HUS Helsinki University Hospital in Finland. Our panel will be followed by an innovative, forward-thinking presentation by Niloy Sanyal, M.B.A., Chief Marketing Officer at LeanTaaS in Silicon Valley, California. Niloy will provide thought leadership on how artificial intelligence (AI) can be leveraged to accelerate lean improvement by bending the access and cost curves in healthcare.

Please join us for an exciting Symposium in Carlsbad, California or online as we showcase new lean research and novel applications of technology around the globe.

Lean in Healthcare Is Good; So Should We Double Down or Cut?

Ken Snyder, M.B.A., Executive Director
Shingo Institute, Huntsman School of Business, Utah State University

The pandemic presented Lean healthcare organizations with an opportunity to shine. And they did. Organizations with a mature lean operating system proved they were able to respond quickly, keep healthcare providers safe, and deliver care more effectively than organizations without lean capabilities. Yet despite excellent support and high performance demonstrated during the COVID-19 crisis, the recent financial crisis now sweeping through healthcare organizations is being treated much differently. Rather than use this burning platform to double down on lean continuous improvement, many organizations have abandoned it in cost-cutting efforts. Did we learn anything? It seems many did not. Why? Perhaps the reason lies in the inability of even the best healthcare organizations to drive cost-reduction at the work system level. An illustrative example of this will be presented.

Ken Snyder has been the Executive Director of the Shingo Institute since 2015. He has also served as a member of the Shingo Executive Advisory Board since 2009 and as a Shingo examiner since 2010. Mr. Snyder developed an interest in Japanese business practices while living in Japan as a student. His interest led him to major in Japanese history from the University of Utah and then to pursue an MBA from Harvard Graduate School of Business for the purpose of working with a Japanese business relocation to the United States. Inspired by the work of Professor Mike Yoshino and Professor William Ouchi, Mr. Snyder wrote his master's thesis on "Applying Japanese Business Practices in American Companies."

Immediately after graduation, Mr. Snyder joined a Japanese electronics manufacturing company and helped lead the establishment of its U.S. affiliate company. As plant manager, and later president of that company, he led the implementation of TQC, QC Circles, and then JIT and kanban initiatives. After 10+ years there, Mr. Snyder led the startup of Progressive Impressions International (PII) in Bloomington, Illinois. There he created a "Lean accounting" system before the term even existed, and he led the growth of PII from pre-revenue to over $25 million in annual revenues. Before joining the Huntsman School, Mr. Snyder was president of Marketing Communication Inc., an operating division of Taylor Corporation, where he directed a group of six companies while growing revenues to over $80 million. He joined the Jon M. Huntsman School of Business in 2008.

.....

Shifting Our Mindset From Scarcity to Abundance

Marnee Iseman, M.H.A., Partner
Lean Practice, Moss Adams

How would we behave if we started from the perspective that healthcare has sufficient resources? That 17-20% of the GDP is enough? Would we see our problem not as lack of resources but as failure to use that resource well? Today's systems often suffer from poor, or absent, design. Leaders often don't know the details of their operations, whether they are in control, or how to adjust when desired results are not

achieved. Additionally, leaders often do not have access to tools, training and coaching that would make a difference. The good news is that a methodology exists to heal what ails us. The question is, will leaders develop the will to work with what they have, stop hoping that getting more will save us, and build the kind of operations that patients and care teams deserve? This presentation will use ambulatory case studies to demonstrate that we have plenty of room for enhanced efficiency and value in healthcare. We also have known solutions to reduce reliance on external staffing and excess costs associated with delivering patient care. Hospitals and providers can implement these methods and tools now to achieve tangible results.

Marnee Iseman leads the lean consulting practice of Moss Adams. With over 22 years' experience practicing lean, she brings firsthand experience working with healthcare organizations as they apply lean methods to solve pressing problems. Marnee served as a principal at Rona Consulting Group (RCG), joining other early lean adopters in US healthcare, until it combined with Moss Adams in 2017. Marnee's 40 years of ambulatory healthcare operations and strategy experience affords her a firsthand perspective of the challenges in transforming the industry. She uses her experience as a senior healthcare leader to work with a wide variety of organizations, including large integrated systems, academic medical centers, FQHCs and healthcare IT start-ups. With expertise in ambulatory operations, patient access systems, electronic health record implementation and optimization, facility design and process innovation, and healthcare strategy, she partners with organizations to address the obstacles that prevent them from delivering value quickly and easily. Marnee has served on the faculty of the Institute for Healthcare Improvement (IHI) bringing knowledge and expertise on solving problems of patient access in a wide variety of public and private organizations.

……

Unveiling the Impact of Lean Leadership on Continuous Improvement Maturity: A Scoping Review

O.P. (Oskar) Roemeling, Ph.D.,Ms.C., Asst. Professor
Dept. of Innovation Management & Strategy, Faculty of Economics and Business
University of Groningen, the Netherlands

A culture of continuous improvement is a primary objective of a mature Lean Management (LM) approach. While leadership plays a central role in this, a comprehensive overview of leader activities that influence LM culture and maturity is lacking. This presentation will discuss findings of a scoping literature review that resulted in selection of 23 studies examining healthcare organization activities in 9 countries. Using a grounded theory approach to data analysis, this systematic review of articles in the management literature identified a total of 58 leadership activities distributed across nine themes of LM leadership, with levels of leadership categorized in three maturity stages: beginner, intermediate, and expert. This study presents the first comprehensive overview of lean leadership in relation to continuous improvement and LM maturity. To enhance a mature LM culture, leaders are encouraged to consider their leadership style, (clinical) stakeholder involvement, alignment with the organizational strategy, and their role in promoting employee autonomy.

Oskar is Director of the Bachelor program of Business Administration and an Assistant Professor at the Department of Innovation Management & Strategy, Faculty of Economics and Business, at the University of Groningen in the Netherlands. In his research, Dr. Roemeling focuses on the application of Lean Management in healthcare environments. Here, he aims to better understand how Lean efforts can be used effectively and how these efforts are sustained over time. Oskar has published in a variety of international peer-reviewed journals such as BMJ Open, BMC Health Service Research, Interactive Journal of Medical Research, Journal of Healthcare Leadership, and International Journal of Operations & Production Management. He has a background in Organizational Psychology (BSc, MSc), Human Resource Management (MSc), and Operations Management (PhD). Oskar currentlylives in the northern part of the Netherlands with his wife and three children, and enjoys being outside and riding his motorbike.

.....

Critical Success Factors for Kaizen Events in Hospitals

Kimberly Harry, Ph.D., Asst. Professor
Dept. of Systems Science and Industrial Engineering
State University of New York (SUNY) - Binghamton

A Kaizen event (KE) is a type of improvement project that can be utilized to enhance hospital operations and ensure delivery of high quality patient care. This presentation will share success factors of KEs identified after conducting a comprehensive, systematic literature review. Success factors occurred within four main categories: KE Task Design, KE Team Design, Organization, and KE Process. Additionally, this presentation will share empirical survey results on critical success factors for KEs in relation to socio-technical outcomes. Factors such as KE design characteristics and target area buy-in will be discussed with respect to hospital performance impact, growth in Kaizen capabilities, performance culture, and team dynamics. Overall, study findings provide evidence-based results informing hospital managers, leaders, and continuous improvement practitioners on the key factors that can be implemented in their hospital KE initiatives to achieve beneficial socio-technical outcomes, as well as overall hospital KE success.

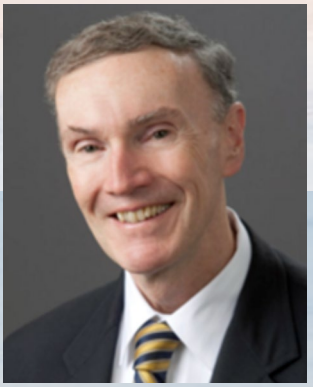
Kimberly Harry is an Assistant Professor in the Systems Science and Industrial Engineering Department at the State University of New York (SUNY)-Binghamton. She received her doctoral and master's degree in the Grado Department of Industrial and Systems Engineering in the management systems concentration from Virginia Tech, Blacksburg. Her research interests include healthcare continuous improvement, healthcare systems engineering, quality engineering, and performance measurement. She is a member of the Institute of Industrial and Systems Engineering (IISE), American Society for Engineering Management (ASEM), and a GEM Associate Fellow. She is also a two-time recipient of ASEM's Merl Baker Best International Annual Conference Student Paper Award (2020, 2022) and a recipient of IISE's Society for Engineering and Management Systems (SEMS) Best Student Paper Award (2021).

.....

Advancing Equity: Lean Leader Practices, Behaviors, and a Path Forward

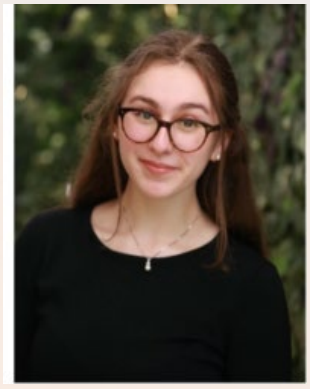
Stephen Shortell, Ph.D., Professor Emeritus, CLEAR Co-Founder, UC Berkeley
Thomas Rundall, Ph.D., Professor Emeritus, CLEAR Co-Founder, UC Berkeley
Lillian Levy, Public Health major, CLEAR Associate, UC Berkeley
Athena Zhong, Molecular & Cell Biology major, CLEAR Associate, UC Berkeley
Elina Reponen, M.D., Ph.D., Head Physician, CLEAR Scholar, HUS Helsinki University Hospital

This panel will share findings from a research project conducted with members of the Lean Action Research Learning Collaborative (LARLC). The Collaborative is convened by CLEAR and supports learning through research and evaluation, with feedback to member organizations for continuous improvement to strengthen and advance strategic priorities. An important objective of the LARLC is also to produce and share generalizable, actionable knowledge with the global lean community to accelerate progress in the field. This year, members of the CLEAR team will discuss findings from a qualitative study on lean leader behaviors and practices used to advance strategic goals in health care organizations. A current priority for several LARLC members is to promote health equity and workforce diversity, equity and inclusion in patient care. We will present cross-cutting themes identified via in-depth interviews with 67 executive and senior leaders, middle managers, and team leads from LARLC member health systems and hospitals in the U.S.



Dr. Shortell is the Blue Cross of California Distinguished Professor Emeritus of Health Policy and Management and Professor Emeritus of Organization Behavior at the School of Public Health and Haas School of Business at the University of California-Berkeley, where he also founded the Center for Healthcare Organizational and Innovation Research (CHOIR). From 2002 to 2013 he served as Dean of the School of Public Health at UC Berkeley. A leading health care scholar, Dr. Shortell and his colleagues have received numerous awards for their research examining the performance of integrated delivery systems; the organizational factors associated with quality and outcomes of care; and the factors associated with the adoption of evidence-based processes for treating patients with chronic illness. He has also conducted research on patient engagement and the performance of Accountable Care Organizations (ACOs). He is an elected member of the National Academy of Medicine and a recipient of the AHA/HRET TRUST Visionary Leadership Award.

Dr. Rundall is the Henry J. Kaiser Professor Emeritus in the Division of Health Policy and Management at the UC Berkeley School of Public Health. From 2008 to 2010 he served as Executive Associate Dean of the Berkeley School of Public Health. Dr. Rundall has published extensively across a broad array of topics in health care policy and management, including primary care, quality improvement, integration of health care services, hospital-physician relationships, health information technology, and evidence-based management. In 2005 Rundall was awarded the Filerman Prize by the Association of University Programs in Health Administration for his contributions to the field of health services management education, and in 2010 he was awarded the Berkeley Citation for distinguished achievement and notable service to UC Berkeley.



Lili Levy is a fourth-year undergraduate student at the University of California, Berkeley studying Public Health with a minor in Public Policy. Being raised in a family of physicians, working as a care assistant to low-income elderly, and volunteering at a COVID-19 test center cultivated Lili's interest and passion for healthcare. These different interactions have inspired Lili to learn how to align healthcare and public policy with best business practices to ensure equitable quality treatment for all. She plans on pursuing a master's degree followed by medical school after her graduation from UC Berkeley in 2024.

Athena Zhong is a fourth-year undergraduate student at the University of California, Berkeley studying Molecular and Cell Biology with an emphasis on Immunology and a minor in Data Science. After volunteering at her local hospital before the pandemic, Athena has been working with CLEAR over the past few years to learn more about how Lean can make a difference in the community and in improving the healthcare system. She has an interest in biotechnology and a developed passion for applying data science methods to real-world problems in healthcare and other industries.

Dr. Reponen is a medical specialist in Anesthesiology and Intensive Care with a doctorate in Medical Science. She has nearly 20 years of clinical experience and currently serves as Head Physician at HUS Helsinki University Hospital in Shared Group Services & Customer Relations. Dr. Reponen was involved in implementing Lean management in her position as the Deputy Chief Physician of one of the OR departments at HUS. In addition to her clinical and administrative work, she has conducted clinical research in perioperative and quality of care. She also conducts research in healthcare management with an emphasis on Lean methodology. Elina joined CLEAR as a Visiting Scholar in 2019 and continues to be part of the team while contributing high-quality studies of Lean in healthcare.

……

Thought Leadership on Artificial Intelligence (AI) in Lean Healthcare: Bending the Access and Cost Curves

Niloy Sanyal, M.B.A.
Chief Marketing Officer, LeanTaaS

Hospital operational efficiency and optimal capacity utilization have become paramount in healthcare settings, where executives and leaders are continuously striving to enhance patient access, maximize revenue, maintain provider and staff satisfaction, and ensure cost sustainability. However, achieving these objectives is often easier said than done, especially in the face of recent reductions in staffing levels that have both highlighted and aggravated capacity challenges.

Traditional attempts to solve these complex operational challenges often fall short due to a combination of inadequate processes, poor change management, and a lack of robust technology capable of addressing foundational capacity issues. This is where the transformative power of artificial intelligence (AI), machine learning (ML), Lean principles, and intelligent automation come into play. By streamlining administrative tasks, optimizing scarce capacity, and improving patient, clinician, and staff engagement, advanced mathematics paired with Lean principles have proven to be a gamechanger in healthcare.

In this thought-provoking session, we will explore the tangible results experienced by integrating Lean methodologies and AI/ML-based predictive and prescriptive analytics into health administration. Over 800 hospitals and centers have witnessed a substantial increase in their operational capabilities (e.g., 30-50 more cases per OR per year, reduced administrative tasks resulting in an increase of $10K per inpatient bed per year, infusion center wait times cut by 50%). These achievements are complemented by a real return on investment, while significantly reducing provider and staff burnout.

Looking ahead to the next decade, AI promises to revolutionize healthcare organizations by shifting them from a reactive response model to a proactive action approach. This session will guide participants through organizational case studies that demonstrate how combining AI, workflow automation, and change management is solving expensive and exhaustive healthcare capacity constraints and effectively bending both access and cost curves.

Niloy is the Chief Marketing Officer for LeanTaaS, the market-leading AI-powered and SaaS-based capacity management, staffing, and patient flow software for health systems. Niloy has over 20 years of experience in marketing and strategy. Prior to joining LeanTaaS, Niloy was Chief Marketing Officer at Omnicell and GE Digital. Niloy was also a senior advisor at TPG Capital. He holds a B.Tech from College of Engineering, India and an MBA from Columbia University in New York City, NY.