

# 7th Annual Lean Healthcare Research Symposium



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 CT | June 7, 2023



**In-Person:** The Chicago Marriott Downtown Magnificent Mile

**Virtual:** Livestream of presentations, web link sent in advance

9:00-9:15 Welcome

9:15-10:00 Keynote Presentation: For "Lean" Organizations, the Time to Rebalance for Impact Is Now

10:00-10:45 Leading Change Across a Healthcare System: Evaluation of the English National Health Service (NHS) - Virginia Mason Institute Partnership

10:45-12:00 Panel Discussion: Lean Action Research Learning Collaborative (LARLC)  
Leveraging Lean to Advance Strategic and Health Equity Goals

12:00-1:00 Lunch (catered)

1:00-1:45 Daily Management Systems and Psychological Safety

1:45-3:00 Panel Discussion: Harnessing Innovation and Technology for Continuous Improvement

3:00-3:45 Lean Design of a Breast Cancer Navigation Program: Patient-Physician Experiences and Outcomes in Delivering Cancer Care

3:45-4:00 Networking (in-Person)

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





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

On behalf of CLEAR, I am pleased to present our 7th Annual Lean Healthcare Research Symposium! The meeting will take place on June 7, 2023 in Chicago and we will be livestreaming the event.

Our Keynote Speaker this year is Ken Segel, CEO of Value Capture, who will challenge us to focus on core systems leading to true transformation. Joining us from the UK, Dr. Nicola Burgess will share her evaluation of a partnership between the English National Health Service and Virginia Mason Institute. We are also delighted to host a special panel with members of CLEAR's Lean Action Research Learning Collaborative (LARLC), featuring Jenna Bilinski from Zuckerberg SF General Hospital, Samuel Ashby from Legacy Health, Keith Kilgore at Indiana University Health, Tosan Boyo at John Muir Health, and Cynthia Chiarappa from UCSF Health. These leaders will discuss how their organizations are leveraging lean to advance strategic goals, including health equity.

This year we again feature the work of Dr. Pierre-Luc Fournier from Canada who will share his research on daily management systems and psychological safety among nurses. A special panel on innovation and technology with Penny Iannelli and Cliona Archambeault from UMass Memorial Health Care, and Michael Baratz from Baylor Scott & White Health, will highlight how health systems are harnessing new platforms to engage frontline staff while supporting vertical alignment, measurement, and continuous improvement. Finally, we present on the use of lean in needed spaces such as cancer care. On behalf of our research team, Dr. Ellis Dillon and Paul Kim will present a pair of recently published articles on a lean-designed breast cancer navigation program implemented at Sutter Health. They will describe both patient and physician experiences, and share data sourced from Epic<sup>®</sup> electronic health records on timeliness of care delivery, specialist resource use, and coordination between primary care and oncology to create greater value for patients.

Please join us this year in Chicago or online as we share cutting-edge research and innovations from the field.



## For “Lean” Healthcare Organizations, The Time to Rebalance for Impact is Now

*Ken Segel, MBA, CEO & Co-Founder  
Value Capture*

At a time when virtually every American health system faces significant challenges expressed through the lens of workforce shortages and rising costs, even so-called “lean” healthcare organizations are struggling to get significant positive results on these and other key challenges. This underperformance occurs despite the fact that the almost magic power of a full implementation of Toyota Production System (TPS) principles was proven to avoid and even solve these types of problems. One contributing factor? About a decade ago, most of these systems fell in love with an important “leg of the stool” of the TPS – daily management systems – but dramatically overemphasized this component at the expense of the other two legs of the Toyota stool which drive significant results: the work system and the improvement system. Better results require rebalancing to focus on the design and operation of the work system much more deeply than ever before in healthcare, where it is possible to “move the numbers” and make a tangible difference for patients, the workforce, and the bottom line. Reflecting on how we got here and the proper roles and integration of each key system in TPS, especially the role of leadership, will help us make the shift successfully and avoid ending up in the same place again.



Ken Segel is a co-founding principal of Value Capture and serves as Chief Executive Officer and Managing Director of the firm. In this role, he provides support to CEOs of healthcare organizations dedicated to eliminating injuries and improving quality as a means to dramatically raise the clinical and financial performance of the entire institution. Prior to forming Value Capture, Mr. Segel served as the founding director of the Pittsburgh Regional Healthcare Initiative (PRHI). PRHI achieved best-in-nation regional results in the elimination of several classes of risk for patients. Before helping to create PRHI, Mr. Segel served for five years as Senior Program Officer at the Jewish Healthcare Foundation of Pittsburgh, where he guided many community health improvement initiatives and began the Foundation’s formal public policy program. Earlier in his career, Mr. Segel served as an aide to the leadership of the U.S. House of Representatives, directed the overnight operations in the 1992 Clinton-Gore presidential campaign “War Room,” and served as Policy Director and speechwriter for the Democratic Party. He also taught political organizing and election monitoring in Ukraine and Russia.

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### Leading Change Across a Healthcare System:

#### Evaluation of the English National Health Service (NHS)-Virginia Mason Institute Partnership

*Nicola Burgess, PhD, Reader in Operations Management  
Warwick Business School, University of Warwick, UK*

This session will discuss and highlight lessons from a longitudinal, mixed method evaluation of a partnership between the English NHS and Virginia Mason Institute. The partnership evaluates the impact of a systematic and holistic adoption of lean-based methods across five English hospitals across a five-year period. The NHS-VMI partnership was the result of a multi-million-pound investment by the UK Department of Health; the ambition was to make the English NHS the safest in the world. Our extensive evaluation reveals the varied impact of the partnership and highlights discernible ‘lessons’ for healthcare leaders about how to foster a culture of continuous improvement across the wider healthcare system.



Dr. Nicola Burgess is Reader (Associate Professor) in Operations Management at Warwick Business School, University of Warwick in the UK. Nicola's research activity has primarily focused in healthcare, conducting a number of formative and summative evaluations of improvement programmes within healthcare settings around the world. She recently led the national evaluation of the NHS partnership with Virginia Mason Institute. Nicola also serves as an advisor on NHS program boards and acts as reviewer for several academic journals. Nicola has published widely in world leading journals such as Journal of Operations Management, Human Resource Management, European Journal of Operations Research, British Journal of Management and the British Medical Journal.

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### Leveraging Lean to Advance Strategic and Health Equity Goals

*Jenna Bilinski, RN, MBA, Chief Integrative Officer – Zuckerberg San Francisco General Hospital*  
*Samuel Ashby, Director of Performance Excellence – Legacy Health*  
*Keith Kilgore, Exec. Director of Clinical Performance Improvement – Indiana University Health*  
*Tosan Boyo, MPH FACHE, Senior Vice President of Hospital Operations – John Muir Health*  
*Cynthia Chiarappa, MBA FACHE, Chief Integration Officer – UCSF Health*

The Lean Action Research Learning Collaborative (LARLC) is convened by CLEAR and comprised of health care organizations that aim to use lean transformational performance improvement as an overall operating system. The purpose of the LARLC is to support learning through objective evaluation of the uptake, spread, and/or effects of lean-based performance improvement initiatives. This information is fed back to LARLC members for change initiation and change management or continuous improvement purposes. The ultimate goal is to produce and share actionable knowledge that will accelerate each organization's progress in achieving their strategic and operational goals. This year's special panel is inspired by a LARLC study currently underway. Panelists will provide real-world contexts and examples of how lean is being leveraged to support strategic goals, including health equity, workforce diversity and engagement. These are critical priorities given current staffing shortages, high turnover, and unprecedented levels of burnout in delivering patient care. Leaders representing our LARLC member organizations are featured below:



Jenna Bilinski is the Chief Integrative Officer at Zuckerberg San Francisco General Hospital (ZSFG). In this role, she serves ZSFG and the SF Department of Public Health to equitably and effectively connect and integrate services for patients and clients with behavioral healthcare needs. Jenna oversees the planning, development and implementation of integrative operations and strategy with a focus on behavioral health and social determinants of health. Previously she served as the Director for Social Medicine and the Kaizen Promotion Office. Jenna also served as the Health Operations Chief/Director for the San Francisco COVID Command Center, supporting the City and County

of San Francisco's COVID-19 pandemic response. Jenna received her Executive MBA from UC Berkeley Haas School of Business. Prior to working at ZSFG, Jenna held several nursing leadership positions and practiced clinically in the Emergency Department. She has a passion for public health and patient flow, and she looks forward to a future where we all have equitable access to care.





Throughout his career, Samuel Ashby has used this maxim as a personal call to action: “Fix the process, not the people...” A thought leader in Lean, process improvement and people development, Samuel currently serves as the Director of Performance Excellence for Legacy Health in Portland, Oregon. Samuel oversees the design, development and deployment of the Legacy Operating System across Legacy's clinical, operational and administrative value streams. Samuel has served as Managing Principal of Speed of Thought Consulting, a strategic consulting firm focused on using Lean thinking to help nonprofits and small businesses innovate their business models. Samuel was also the Global Process Director for Lean Fulfillment at Nike Inc., where he developed and deployed the Global Lean strategy for the 57 distribution centers within the Nike Inc. Supply Chain. Prior to that, Samuel served as Global Lean Enterprise Director at Converse (Nike subsidiary) in China. While there, Samuel designed, developed, and deployed the Global Lean strategy for contract-manufacturing partners across Vietnam, China, India and Indonesia. Samuel has held the following leadership roles in Fortune 500 organizations: Global Process Manager at Nike Inc., Lean Six Sigma Black Belt at GE Capital, Lean Sigma Black Belt at Medtronic Diabetes, and Team Member at Toyota Motor Manufacturing of Kentucky. Samuel is an alumnus of Eastern Kentucky University and is a member of both Kappa Alpha Psi and Sigma Pi Phi (Boulé) Fraternities. In his spare time, Samuel volunteers with initiatives funded by the City of Portland. He also enjoys spending time with his daughters, Ava and Emerson.



Mr. Keith Kilgore has spent his career oriented towards work on business objectives and operational improvement in a wide range of industries, including banking, construction, retail, distribution, and health care. The starting point in each industry is always: “What does the customer want?” and the work is: “How do we deliver that effectively?” In health care, understanding patient and clinician need is vital to success. Keith’s current role as Executive Director of Clinical Performance Improvement at Indiana University Health splits time between the offices of the Chief Medical Executive and the Chief Information Officer to support understanding, alignment, and enablement of answers to those key questions.



Tosan O. Boyo, MPH, FACHE is Senior Vice President of Hospital Operations at John Muir Health (JMH), a California Top 10 in the US News and World Report. Tosan is responsible for maximizing clinical integration, team effectiveness and facility performance to deliver the highest quality of care across JMH Walnut Creek Medical Center, JMH Concord Medical Center, and JMH Behavioral Health Center. Tosan also serves on the Board of Directors for the Institute of Healthcare Improvement, which for decades has spearheaded improvement science to advance health outcomes, and reduce harm and deaths across the world. Tosan previously served as the Chief Operating Officer of San Francisco General Hospital—the City’s only Level 1 Trauma Center, largest Primary Care Center and only Psychiatric Emergency Service. In February 2020, he was appointed by San Francisco’s Director of Public Health to serve as the Deputy Commander of the City’s COVID-19 Operations Center. Born in Nigeria, and backpacking across all seven continents, has shaped Tosan’s views on how intersections across culture, policy, and health impact vulnerable communities. He believes access to affordable high quality care is a cornerstone for a thriving society, and he is on a life-long mission to eliminate health disparities.





Cynthia Chiarappa, MBA, FACHE is Vice President and Chief Integration Officer for UCSF Health where she leads key initiatives in support of UCSF Health System's operational and strategic priorities. She oversees the organization's lean transformation, its \$625 million value improvement efforts to date, enterprise portfolio management, strategy deployment and the UCSF Health Experience division. She has over 25 years of healthcare administration experience including leading and influencing large cultural transformations. While her early career is grounded in strategic planning, communications and marketing, her passion for lean thinking and systems stems from her belief that in health care, a brand is only as good as the front line delivering on the brand promise. Through lean strategy deployment and a strong management system, she finds that healthcare organizations can continually improve to deliver the safest care possible and create better places to work. A part of Cynthia's current work focuses on developing strong leaders to be humble and curious. She is certified in Lean for Healthcare and has received awards and recognition for her marketing and brand campaigns. She lectures internationally on lean in health care, strategy deployment and lean leadership development.

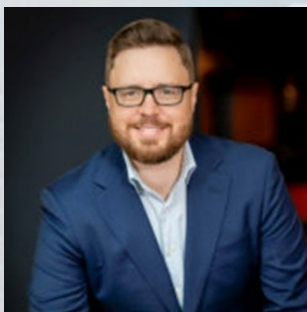
**Questions about joining the Lean Action Research Learning Collaborative can be emailed to [CLEAR@berkeley.edu](mailto:CLEAR@berkeley.edu)**

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### Daily Management Systems and Psychological Safety

*Pierre-Luc Fournier, PhD, MS, P.Eng, Assistant Professor  
Université de Sherbrooke Business School*

Daily Management Systems have become key aspects of Lean-driven organizational transformations in healthcare. They have also helped hospitals face and adapt to the challenges created by the Covid-19 pandemic. As their positive impact on hospital performance is becoming more documented, the discussion surrounding the impact of Daily Management Systems on worker well-being is growing. To this end, questions have emerged regarding their possible effects of workers' psychological safety. Can Daily Management Systems help foster more psychologically safe work environments in hospitals? How can leaders potentialize Lean-inspired management tools towards improving the psychological safety of healthcare workers? In this presentation, we will discuss the results of a study conducted in the Canadian healthcare system that focused on the relationship between Daily Management Systems and nurses' psychological safety, and how leader behaviors interplay with that relationship.



Dr. Pierre-Luc Fournier is an Assistant Professor of operations management at the Université de Sherbrooke Business School. His research interests include behavioral operations management, continuous improvement and performance management, with a specific focus on healthcare organizations and systems. His most recent works, published in scientific journals such as the *International Journal of Production Economics*, *Production Planning and Control*, and the *International Journal of Integrated Care*, have focused on the drivers of stakeholder engagement and reactions during Lean implementation. He has collaborated for several years with various healthcare organizations in Canada and the U.S. Dr. Fournier currently holds various public and private research grants for projects studying how healthcare organizations can quickly adapt to new operational realities in a change saturated context. Dr. Fournier holds a Ph.D. in operations management from HEC Montréal, and is also a professional engineer with M.S. and B.Eng degrees in industrial engineering from the Université du Québec.

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## Harnessing Innovation and Technology for Continuous Improvement

*Penny Iannelli, LSSMBB, PMP, Chief Transformation Officer – UMass Memorial Health Care*  
*Cliona Archambeault, MBA, PI Senior Director – UMass Memorial Health Care*  
*Michael Baratz, SVP of Operational Excellence – Baylor Scott & White Health*

This special panel on innovation and technology will reveal how two large health systems are using digital platforms to support, measure, and monitor employee-initiated improvement activities. Paper and poster improvement boards, hand-written A3s, and spreadsheet-based lists of QI projects are becoming a thing of the past at companies such as UMass Memorial Health Care (UMMHC) in Worcester, MA and Baylor Scott & White Health (BSWH) in Dallas, TX. For example, UMMHC has been on a Lean transformation journey for over a decade resulting in over 100,000 frontline caregiver ideas implemented across the organization. Due to remote work protocols put in place during the pandemic, UMMHC and other health systems have intentionally made the shift to technology to sustain their successes. Now, process improvement-specific technology engages all employees in ideas and QI projects at levels not seen pre-pandemic. This panel will share how technology is being used to develop new lean thinkers, manage strategic and improvement projects, share ideas, and sustain progress on True North metrics.



Penny Iannelli is Chief Transformation Officer for UMass Memorial Health Care (UMMHC) and runs their Center for Innovation & Transformational Change. Before holding this role, she was Vice President of Process Engineering and Analytics. Prior to working at UMMHC, Penny worked at several companies including Intel Corporation, Interscience, Inc., W.L. Gore and Associates, and University of Minnesota in Strategy Development and Execution, Process & Chemical Engineering-Management, Portfolio-Program-Project Management, Lean Six Sigma Program Creation/Management, Business Relationship Management, Manufacturing Operations, and Quality Management. She holds a B.S. in Chemical Engineering from Rensselaer Polytechnic Institute, is a Lean Six Sigma Master Black Belt, a PMP, and has Lean Certifications from various Institutions.



Cliona Archambeault leads the process engineering team of Lean Six Sigma Black Belts and Master Black Belts in the Center for Innovation & Transformational Change at UMMHC. She has more than a decade of experience leading process improvement in health care. Prior to joining UMMHC, she led a process improvement and health systems engineering team at the Veterans Health Administration in Boston. Earlier in her career, she worked as a process and industrial engineer at Intel Corporation. She holds an MBA from Worcester Polytechnic Institute, a BS in Biomedical & Mechanical Engineering from Rensselaer Polytechnic Institute, and is a Lean Six Sigma Master Black Belt.



Michael currently serves as System Vice President of Operations Excellence / Continuous Improvement for Baylor Scott and White Health. His team supports 22 acute care hospital sites and 476 clinics across Texas. Since joining the Baylor Scott and White Healthcare system in 2010, Michael has helped lead the transformation effort focused on changing the culture among leaders and employees to a continuous improvement culture. He helped create the training program for BSWH employees—from frontline staff to senior leaders—with all staff and over 4000 leaders having now completed the program. Michael



developed PDCA/A3 problem solving training and mentoring programs that have been followed since 2011, with over 2000 leaders and staff completing A3s through this program. Michael was one of the key coaches responsible for building and deploying Daily Lean Management Systems at BSWH starting in 2012. His team currently supports over 1400 huddle boards. Using Lean Management, BSWH deploys strategy and has made significant improvement in Quality/Safety, Customer Experience, Team Member Experience, and Financial Stewardship through the engagement of senior leaders to frontline staff implementing improvements every day. Prior to joining BSWH, Michael led an effort to convert the Austin manufacturing facilities of the largest semiconductor manufacturer in the world from bay build to Flow using the Toyota Production System. After the conversion, his effort was directed to transforming the supply base throughout the United States, Europe, and Asia.

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**Lean Design of a Breast Cancer Navigation Program:  
Patient-Physician Experiences and Outcomes in Delivering Cancer Care**

*Ellis Dillon, PhD, Assistant Professor – University of Connecticut  
Paul Kim, MS – Frank H. Netter School of Medicine, Quinnipiac University*

Effective care for complex illnesses such as breast cancer relies on highly standardized work processes to optimize treatment and increase survival rates. Only a few studies to date have examined the use of lean process redesign in oncology. One area that remains unexplored is the use of lean-based workflows to support early cancer care. Nurse navigators can impact the experiences of newly diagnosed patients, but little is known about how physician workflows and indicators of high-quality care may be affected. This pair of studies examines both patient and physician experiences with a breast cancer navigation (BCN) program designed using Lean principles in a large ambulatory care network at Sutter Health. Leveraging Epic® data, our research team evaluated the quality and value of care as measured by timely disclosure of biopsy results, completion of initial consults, outpatient use of cancer specialists, and coordination between primary care and oncology to create greater value for patients.

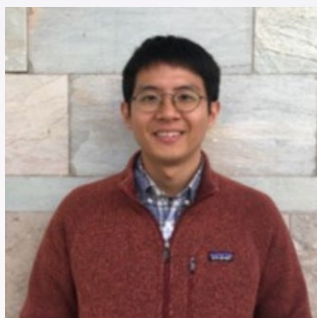


Dr. Dillon is a medical sociologist and health services researcher based at the Center on Aging and the Department of Public Health Sciences at the University of Connecticut. Her research includes evaluation of innovations in the Connecticut Department of Social Services Medicaid policy and programs for older adults and people with disabilities. Prior to this role, she spent eight years as a researcher embedded in a large health system leading research on implementation and evaluation of healthcare systems change. Her research focuses on improving patient and family-centered outcomes and using mixed

methods to provide a holistic understanding of journeys through illness and opportunities for improvement. Her expertise includes serious illness, hospice and palliative care, multiple chronic conditions, mental health care, and shared decision-making. She has led studies aimed at evaluating programs and policies, including cancer navigation programs, health coaching for individuals with chronic conditions, collaborative care for adolescent mental health, implementation of suicide risk screening, and home and community-based services for adults with developmental disabilities. She takes a systems approach to evaluating impact and includes individual, family, clinical and professional team perspectives



and outcomes. Her background in mixed-methods research and exploring new data sources allows her to design and execute projects that gather information often unavailable from readily accessible sources.



Paul Kim is a medical student at the Frank H. Netter School of Medicine at Quinnipiac University in North Haven, CT. During his research enrichment year with CLEAR, he is learning more about the impact of lean on healthcare delivery and quality. Before attending medical school, Paul worked as a research assistant in the Helen Diller Family Comprehensive Cancer Center at the University of California, San Francisco. Prior to pursuing a career in medicine, Paul also worked as a materials engineer at Corning Incorporated. He received his M.S. in Materials Science and Engineering (MSE) at Cornell

University after obtaining his B.S. degree in MSE at Pohang University of Science and Technology in South Korea. He is pleased to present this work on breast cancer navigation conducted by the full research team at Sutter Health, co-led by Drs. Dorothy Hung and Ellis Dillon.

