Book Reviews

Lean Hospitals: Improving Quality, Patient Safety, and Employee Engagement, Second Edition. 2012. Mark Graban. Boca Raton, FL: CRC Press, Auerbach Publications. 270 pages.

This book provides an overview of the application of lean techniques, as represented by the Toyota Production System, in a healthcare environment. The case is presented and made to justify the need for lean as an approach to manage the potentially conflicting demands of quality and patient safety, costs, waiting times, and employee engagement. The author distinguishes lean from traditional cost cutting and headcount reduction by placing an emphasis on tools, management systems, and philosophies; continued learning and professional development of employees is also emphasized. "Wins" are illustrated with examples of reductions in cycle times, waiting times, length of patients' stays, readmission rates, and avoidance of capital spending, achieved through improvements to employee engagement.

The first portion of the book addresses the overall concepts of lean ("Overview of Lean for Hospitals," "Value and Waste," "Observing the Process and Value Streams"). Lean is defined based on references from Ohno, Womack, Jones, and the Lean Enterprise Institute, with emphasis on continuous improvement and respect for people. Experimentation types (such as ongoing, rapid, and collaborative) are outlined, and waste is described with healthcare-relevant examples, starting with the principles of value, value stream, flow, pull, and perfection, and clearly distinguishing waste from costs. Value stream mapping is explored as a way to call out the value and waste within a process, cutting across functional areas and silos, with current-state and future-state perspectives.

The second part of the book expands upon the specific tools associated with lean systems ("Standardized Work as a Foundation of Lean," "Lean Methods: Visual Management, 5S, and Kanban"). The three core principles of standardization, heijunka (level loading), and kaizen (improvements) are introduced as mechanisms to eliminate waste and respect people. Standardized work is described as a way to maintain productivity, quality, and patient safety using the fewest possible resources, and the roles of changeovers, adherence, compliance, and overcoming resistance are explained. Visual management, as a way to document patient flow and prevent process problems, illuminates the implementation of standardized work using healthcare examples. 5S is augmented by a sixth "S" (safety), and kanban is explored as a structure for inventory management in hospitals. This section concludes with a hospital case study where lean is applied to prevent patient harm.

The third section introduces practical approaches. There are explanations of healthcare errors related to violations, lapses, and slips, with defects measured in defects per million opportunities (DPMO), compliance rates, and percentages. Root-cause identification and prevention steps are critical to improve quality and patient safety, particularly to shift the focus from finding fault to understanding why failures have occurred. The A3 template, 5 Whys, and failure mode and effects analysis (FMEA) diagnostic approaches are described as ways to elicit this process information. The concept of jidoka (error proofing) is described as a way to create quality at the source, because making errors impossible to create is more effective than 100 percent inspection or additional care. Barriers to flow (that is, uneven workloads, layouts, and nonvalue process attributes) are also discussed.

The fourth portion takes the perspective of the project leader, who engages employees into the lean culture by emphasizing initiative and alignment. Four "True North" objectives (safety and quality, people, customer satisfaction, and financial

stewardship) are described in terms of how they can be transformed into daily metrics. The impetus to start a lean program is covered from the perspectives of cost reduction, patient satisfaction, labor costs, and satisfaction, and the needs for revenue and growth. The vision of a lean hospital is presented comprehensively from the perspectives of the facility, the patient experience, and the employee.

As a resource, this reference is supported by the inclusion of lean lessons and discussion points following every chapter, as well as glossary terms for lean tools and techniques. These summaries and provocative questions reinforce the chapter highlights, and provide an effective diagnostic tool to support lean project definition and management even beyond healthcare. This publication overall surpassed my expectations as a serious and relevant reference, as well as an end-to-end resource for deploying lean techniques in the workplace. This would also be a very useful book for people aspiring to prepare themselves for ASQ lean certification, or an equivalent peer recognition.

Reviewed by
Dan Zrymiak

NeuroTribes: The Legacy of Autism and the Future of Neurodiversity. 2015. Steve Silberman. New York, NY: Avery. 534 pages.

Autism spectrum disorders (ASD) are characterized by an intense sensitivity to various sensory stimuli, difficulties with social communication, impaired executive functioning, and fixed, intense interests. Because this topic is not directly related to the quality body of knowledge, it may seem odd that a book about autism is included in this journal's book reviews. However, the relationship of this rich collection of stories that illuminate the inner landscape of the ASD individual and quality management is readily apparent in a 1938 quote by Hans Asperger: "Not everything that steps out of line, and is thus abnormal, must necessarily be inferior."

Asperger was one of the first medical researchers to investigate the behavioral and intellectual characteristics of patients on the autism spectrum. His research in the late 1930s was focused on the "little professors" who, even in their youth, had unnatural fixations with data, and a remarkable ability to focus for long periods of time and solve challenging puzzles. During a time when Hitler's aggressive extermination programs put the life of any child with a disability in jeopardy, Asperger aimed to defend their intellectual merits and channel their special talents to support the national interest, in particular, by exploring their ability to serve as code breakers.

The author of this book, Steve Silberman, is a journalist who is regularly featured in *Wired, Time*, and *The New Yorker*. His style is easy to read, intellectually stimulating, and emotionally captivating. He describes ASD not as a disability but as an entirely different neurological operating system, and notes that ASD people are excellent at developing systems for organization and classification, as well as creative, associative thinking. (There are probably many people with ASD making valuable contributions to the quality profession.) Silberman argues that if the damaging stereotypes surrounding autism can be put to rest, one will be poised to capture a new wave of productivity enhancement and breakthrough innovation, with implications for the practical development of inclusive learning organizations.

Autism spectrum disorders have been on the increase over the past three to four decades. Now, it is estimated that at least one in 100 people are on the spectrum, and many diagnosed in the 1990s are now coming of age and joining the workforce. As an individual on the spectrum myself, it is easy to envision how developing systems to more vigorously support the unique talents of ASD individuals can benefit everyone, even those who are neurologically "typical." There are opportunities for quality management professionals in the United States to adapt to the changing nature of the workforce, and consider strategies for "putting autistic intelligence to use" following successful models in Germany, India, and the United Kingdom. Additionally, this book supports the development of performance management systems that embrace variation and seek to amplify the unique strengths of each member in an organization.

Reviewed by
Dr. Nicole Radziwill

The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. 2014. Erik Brynjolfsson and Andrew McAfee. New York, NY: WW Norton & Company. 320 pages.

In this book, MIT economists Erik Brynjolfsson and Andrew McAfee set out to accomplish three goals: 1) to provide an accessible description of recent technological advances (primarily automation driven by increasingly robust artificial intelligence); 2) to discuss the global abundance this technology will produce; and 3) to offer recommendations to mitigate the negative impacts of automation, primarily growing income inequality. They describe innovation as recombining existing technologies and weeding out the dysfunctional combinations, limited mostly by one's capacity to evaluate the exponentially growing pool of potential recombinations. They are bullish on the potential for new technology to help identify innovations more effectively.

Innovation, they say, has introduced an age of abundance. Using traditional measures (for example, gross domestic product) and nontraditional measures (for example, well-being, intellectual property, organizational and human capital, and user-generated content), the authors support their argument that, in general, things are getting better. However, income inequality threatens access to this bounty, disproportionately favoring the more highly skilled owners of physical and intellectual capital. If bounty grows faster than degree of inequality, everyone wins. But if spread grows faster, inequality could have disastrous consequences globally.

Their recommendations? For individuals: study hard at skills computers won't likely be able to automate in the near term. For policymakers: grow the economy by restructuring taxes and investing the money in education, entrepreneurship, science, infrastructure, and better ways to connect these things together. Longer term, they believe some form of guaranteed "basic income" will be necessary, although they prefer strategies that still incentivize work.

This is an engaging book filled with excellent examples that make the authors' ideas clear and easy to understand. They offer straightforward, though not always fully formed, solutions to what they see as thorny (but not insurmountable) problems. Although the authors meet their stated goals, they seem to underestimate the potential magnitude of social upheaval across several industries, including transportation, manufacturing, and service. Additionally, they appear to oversimplify recent work on motivation: as economists, their answer to most problems is more economic growth. Even though the authors recommend no radical or extreme courses of action, they have a knack for explaining concepts that can be hard to grasp. Quality professionals may find the alternative measures for economic growth useful, as well as the recommendations to facilitate smoother transitions to an ever-more-automated work environment.

Reviewed by
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