

Transforming Healthcare Using Systems Engineering in an Academic Health System

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Abstract

The University of Texas includes six health institutions, including the MD Anderson Cancer Center, as well as Schools of Business, Engineering, Medicine, Nursing, and Public Health across the state of Texas. With the support of the UT Board of Regents in 2011, we began an initiative to collaborate across the system to implement Systems Engineering tools and concepts in the health institutions with the aim of "transforming healthcare." This presentation will show the progress made so far, the barriers and challenges faced, and the plan to address them. Examples of improvements made and resulting value (in cost reduction, improved safety, etc.) will be provided including specific examples of successful applications of Systems Engineering to healthcare.

Biography

Victoria Jordan, PhD
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Dr. Jordan's research interests include statistical quality control, Six Sigma, process optimization, mathematical simulation of patient flow, and applied statistics. She is the co-author of a McGraw-Hill textbook, *Design of Experiments in Quality Engineering*, author of several peer reviewed articles, and has served as an Adjunct Professor in Industrial Engineering at the University of Houston and as an Instructor in Industrial and Systems Engineering and Assistant Professor in Statistics at Auburn University. In addition to her position at M.D. Anderson, Dr. Jordan currently serves as the University of Texas Vice-Chancellor's Health Fellow for Systems Engineering, as a Research Fellow at the University of Texas Red McCombs College of Business, on the Industry Advisory Board for the University of Houston Industrial Engineering department, and on the Alumni Council for the Auburn University Industrial and Systems Engineering department.

Dr. Jordan received her Ph.D. from Auburn University in Industrial and Systems Engineering with an emphasis in applied statistics. She holds an M.B.A. from the Ohio State University, an M.S. in Industrial and Systems Engineering from Auburn University, and a B.S. from the University of Kentucky in Statistics, with minors in Computer Science and Mathematics.

Dr. Jordan is a senior member of the American Society for Quality, and a member of the American Statistical Association and the Institute of Industrial Engineers. She is a Six Sigma Master Black Belt (certified by ASQ and BMGI) and has over 25 years of experience providing management and statistical consulting in manufacturing, service, and health care organizations.