Preface

Dependability is a concept that is well established in engineering and management. Expressed quite simply, a system is dependable if its performance can be justifiably trusted by the user. It is the basis for the world of airplanes, nuclear power, railway, and industrial automation, among others. This book explores the engineering, management, and regulatory principles behind dependability. It helps to understand the salient principles behind dependable systems to inspire their application in day-to-day healthcare.

This book was born of the extraordinary generosity and kindness of Dr. Pascal Traverse at Airbus Industrie, Dr. Ying C. Yeh at the Boeing Company, and Jamie Lambert at Wake Forest University. Their kind guidance helped me understand and explore the world of dependability. Dr. Traverse and Dr. Yeh encouraged me to pursue this work as an interdisciplinary undertaking so that the matter may be understood from several different perspectives and applied to the world of medicine. I am immensely grateful to Reliance Industries Limited (RIL), Mumbai, India, and BB&T (Branch Banking and Trust Corporation), Winston-Salem, USA, for sharing their ideas with me.

This book seeks to introduce physicians to engineering and management ideas well established in the industry. Medical education traditionally does not include contemporary management and engineering ideas. The hope is to inspire a generation of physicians who can think like the great engineers and managers of the iconic companies featured in this book to deliver dependable healthcare.

Gratitude is owed to many remarkable individuals who helped the long journey which led to this book. I am immensely grateful to Bryan Arkwright for lending me support during the crucial stages of this work. The roots of this journey began in 1993 at Medical College Kottayam where some very committed faculty dedicated themselves to making a physician out of a reluctant medical student. I enjoyed medical school due to the kindness of Dr. K. S. Raju, Dr. Rajsekharan Pillai, Dr. Alice George, Dr. Remani George, Dr. Sumadevi Balachandran, Dr. Agnesamma Jacob, Dr. S. Vaidyanathan, Dr. L. Rajam, Dr. R. V. Jayakumar & Mrs. Jayakumar, Dr. R. N. Sharma, Dr. A. Vimala, Dr. B. Kanakambaran, and
Dr. Gopalakrishna Pillai. My cherished friendships with Kannan Vaidyanathan, Mohan C. Abraham, Nishanth S. Nair, Mathew K. Thomas, Milan C. Mathew, and Zulfi Haneef supported my later career interests.

I am grateful to the University of Illinois at Chicago (UIC) for extending me the opportunity for graduate work in biomedical engineering and residency training which lies at the heart of this work. From graduate school days, I am deeply grateful to Dr. Margot S. Damaser, Dr. Dan Schonfeld, Dr. William O’Neill, Dr. Richard L. Magin, and Dr. Rashid L. Ansari for teaching me biomedical engineering. I owe the sincerest gratitude to Dr. David Landau, Dr. Giuliano Testa, Dr. Masoud Hemmati, and Dr. Mahmood Mafee for helping me transition to clinical medicine. My career in medicine in the United States owes it all to the kindness of Dr. Harvey Friedman and Kathy Kafka at St. Francis Hospital of Evanston. I owe my career as a neurologist entirely to Dr. Reena Kavilaveettil. At UIC Neurology, I am deeply grateful to Dr. Phillip Gorelick and Dr. Steven Brint for extending me the opportunity to train in neurology. I am indebted to Dr. Boris A. Vern and Dr. Aretha Vern for their immense kindness. My residency training was memorable due to learning from great people on faculty at the time: Dr. Venkatesh Aiyagari, Dr. Cristina Orfei, Dr. Demetrios Skias, Dr. Mary Lou Tomyanovich, Dr. Fernando Testai, Dr. Matthew N. Meriggioli, Dr. Julie Rowin, Dr. Octavia Kincaid, Dr. Sean Ruland, Dr. Rana Mafee, Dr. Aslam Khaja, Dr. Kurien Thomas, Dr. John Hughes, Dr. Stuart Perlisk, and Dr. Cathy Helgason. I was very fortunate for being able to work with and being mentored by Dr. Jack M. Rozental from Northwestern University who taught me many of the principles of management discussed here.

I am deeply grateful to the following faculty at Duke University for my training in neuromuscular medicine: Dr. Vern C. Juel, Dr. Donald Sanders, Drs. Janice & E. Wayne Massey, Dr. Lisa D. Hobson Webb, Dr. Edward C. Smith, Dr. Jeffrey T. Guptill, Dr. Juan C. Gonzalez, Dr. Joel C. Morgenlander, and Mr. Kevin N. Morley.

I am immensely grateful for the kindness and support I received from my colleagues at Wake Forest University. I would like to start by thanking my chairperson Dr. Allison Brashear for her kindness which made this work possible. I am extremely grateful to my senior colleagues in the neuromuscular medicine division—Dr. James Caress, Dr. Michael Cartwright and Dr. Francis O’Walker—for their kind mentorship, friendship, and guidance during the course of my work. Theresa Johnston Crews, RN, provided me with great assistance for presenting valuable ideas from multidisciplinary ALS clinics. I am grateful to my colleagues in movement disorders Dr. Mustafa Saad Siddiqui and Dr. Ihtsham Haq for their support, guidance, and collaboration. Special gratitude is due to Dr. Cormac and Mrs. Rebecca O’Donovan for their warm friendship and support. My interactions with Dr. Maria Sam, Dr. David Lefkowitz, Dr. Jeffrey Michael Craig, Dr. Gautam Popli, Dr. Aarti Sarwal and Dr. James Alexis MacDonald were very enriching. I am deeply indebted to my closest friends Kevin Bonebreak, Scott Kuhn, James Hutchinson, Susan Reid and Nancy T. Wilkins Smith for helping make this journey possible. Special thanks are due to Mr. Kevin Shuping and the neurology clinic who helped with this project. I am immensely grateful to my close friend and trusted aide
Willette Oliver, CNA, who more than anyone epitomized loyalty and teamwork in delivering dependable healthcare. I am indebted to our residents and fellows, especially to Dr. Preet Chahal, Dr. Bandhu Paudyal, Dr. Justin Hale & Mrs. Demera Hale, and Dr. David Mayans for their contributions and assistance with some of the cases and ideas presented in this work. I’d like to extend my gratitude to Mr. Chad Brown, Ms. Yowanda Graham Cortez, Ms. Christina Davis and Ms. Ricki Scoville Nelson at Davie Hospital for the privilege of working there. I learnt a great deal about lean healthcare from the work of Ms. Carla B. Wilber at Lexington Hospital.

At a personal level, this work required the constant support, inspiration, and assistance of my family, Mr. S. Easwaran, Dr. L.R. Chary, Mr. & Mrs. C.P. Rao, Mr. Binu K Johnson, Mr. Reghu K Rajan, Mr. & Mrs. K.P. Sridhara Raman, Mr. A.V. John and Lizzie auntie, Mrs. Molly Madathil, Drs. Vikas and Ruchi Saini, Dr. Prag and Mrs. Vishakha Magon Gupta, Mr. Shyam Parameswaran and Dr. Anjana Nair.

I am deeply grateful to Mr. Richard Lansing, Mr. Michael Koy, Mr. Andy Kwan and Ms. Deepthi Vasudevan from Springer for guiding this project. I am also indebted to the Project Manager Mr. Jeffin Thomas Varghese and the entire editorial staff at SPi Global for making this work possible.

I hope the reader will find a wealth of new information and inspiration to apply the methods discussed herein to patient care. I also hope this work will inspire new applications in other medical specialties which will hopefully change healthcare for the better.

This work is dedicated to the memory of my late friend and guide Mr. Monichan Madathil.

Winston-Salem, NC, USA

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October 1, 2014
Dependability in Medicine and Neurology
Using Engineering and Management Principles for
Better Patient Care
Balakrishnan, N.
2015, XV, 335 p. 76 illus., 45 illus. in color., Hardcover
ISBN: 978-3-319-14967-7